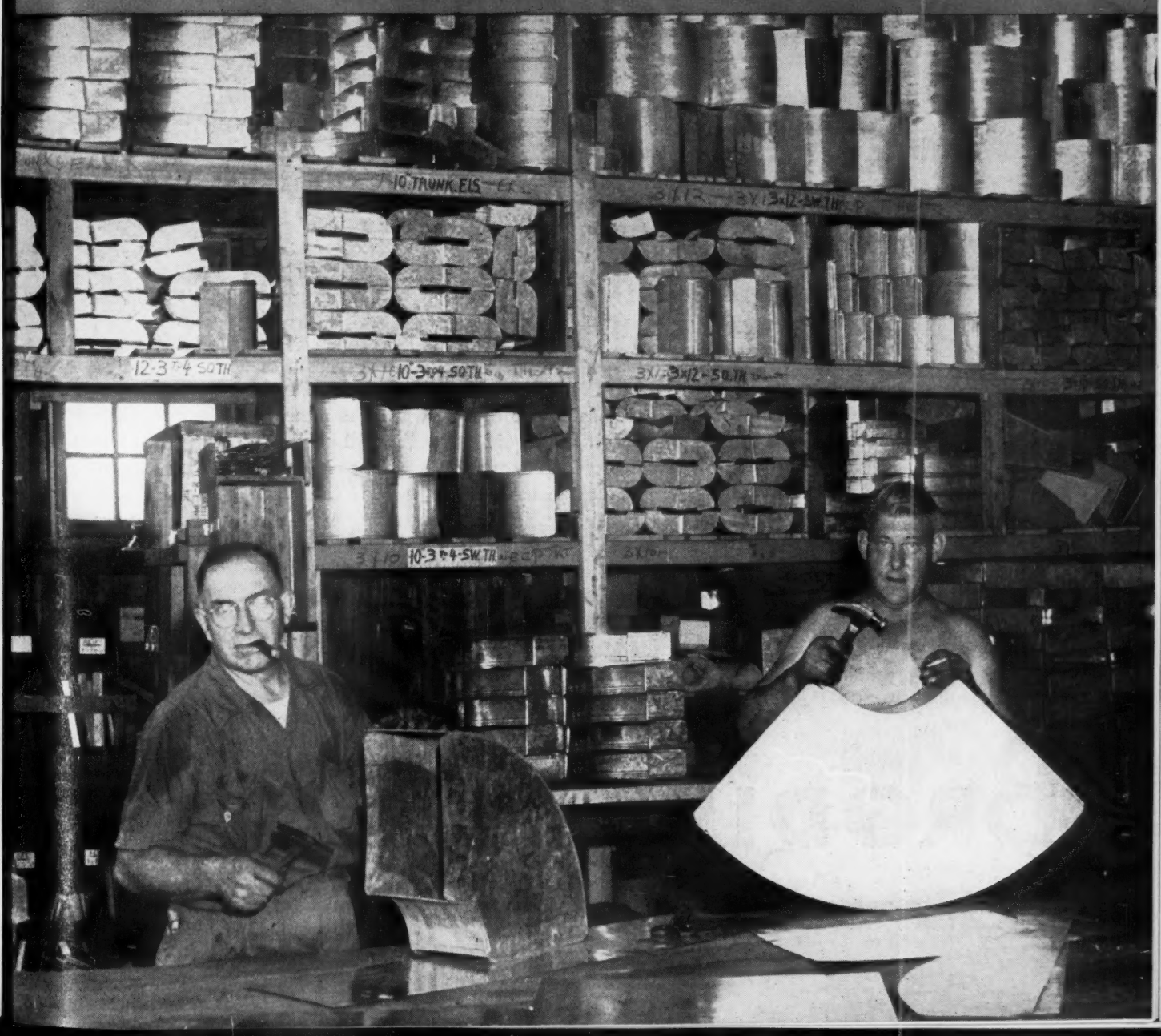
ENGINEERING
LIBRARY

OCT 18 1949

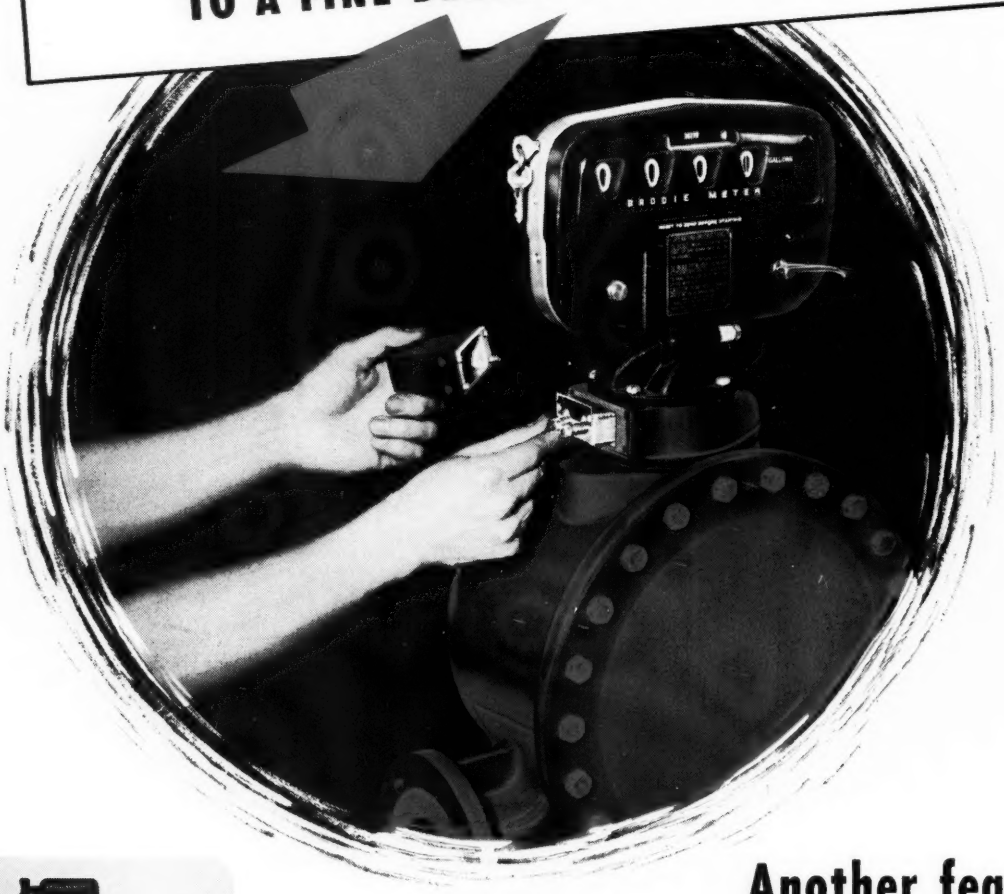
OCTOBER
1949

# fueloil & oil heat



# SIMPLE DRY ADJUSTMENT

## IN FRACTIONAL INCREMENTS TO A FINE DEGREE OF ACCURACY



★ ALL-STEEL HOUSING
★ STREAM FLOW DESIGN
★ FRICTION FREE OPERATION
★ TRUE-ROTARY PERFORMANCE

## Another feature of NEW BRODIE BiRotor METERS

Precision dry adjustment in positive and exact increments to as fine a degree as 5/100 of 1%, while the meter is under pressure—and without loss of liquid, is readily and quickly accomplished with the new complete line of Brodie BiRotor Meters. Positive gear synchronized mechanism—completely self contained, and with sealed-in *life time* lubrication, avoids the use of frictional adjusting devices. Push-Pull pin adjustment unit is completely standard and interchangeable on all Brodie BiRotor Models. Combined with the many other exclusive features such as welded all-steel housing, readily replaceable measuring element, true rotary operation, Brodie BiRotor Meters are the last word in precision performance. Get full details by writing, today.

# BRODIE ALL-STEEL BiRotor TRUE-ROTARY METERS

RALPH N. BRODIE CO., INC. 61ST & LOWELL, OAKLAND 8, CALIFORNIA, U.S.A.

Division Offices: CHRYSLER BLDG., NEW YORK CITY • 59 E. VAN BUREN, CHICAGO 5 • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA
302 SOUTH PEARL ST., DALLAS 1, TEXAS • 221-9TH AVE. NORTH, SEATTLE 9, WASH. • *REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES*

VOL. 8, NO. 6

fueloil & oil heat

OCTOBER

1949

## Names in the News

*A. E. (Jack) Hess,* managing director for the last five years, Oil-Heat Institute of America, Inc., New York 16, N. Y., resigned, effective September 30, to join Lustron Corp., Columbus, Ohio, manufacturers of porcelain enameled steel prefabricated houses. He will work with W. A. Matheson, general sales manager, to complete a dealer organization for the firm. There has been no announcement from the Institute regarding any appointment to fill the vacancy.

*Phil Sprague, Jr.,* has succeeded *Frederic I. Lackens* as advertising manager, Hays Corp., Michigan City, Ind. Mr. Lackens, who held the position for the past twelve years retired on October 1 to take up permanent residence in Fort Lauderdale, Fla. Mr. Sprague for the past year has served on the staff of the Harvard Business School, where he received his MBA degree in 1948, acting as research assistant to the professor of advertising.

*T. H. (Ted) Smoot,* since July 1, has been director of research, Lennox Furnace Co., Marshalltown, Ia., in charge of product development. His headquarters will be in Marshalltown, but he also plans to work in close cooperation with laboratory and service engineers at all Lennox plants. A veteran of the oilheating industry, Mr. Smoot joined Socony Burner Corp. in 1925, first as a district heating engineer, then a supervisor and next was assigned to the Socony laboratory, working on burn-

## CONTENTS


| SUBJECT | PAGE | AUTHOR |
|---|---|---|
| *Fueloil Expedients* | 51 | ROBERT GRAY |
| *Too Busy to Worry* | 54 | |
| *Easing Fuel Payments* | 56 | A. E. COBURN |
| *Baseboard Heating* | 58 | |
| *Duct Shop Sells Fueloil* | 61 | |
| *Designed for Sales* | 62 | W. O. SPEISS |
| *The Camera Visits* | 64 | |
| *Electrical Complications* | 66 | |
| *Installing Big Burners* | 68 | J. W. SCHULZ |
| *Jet Burner for Tobacco Curing* | 74 | PHILLIP KAFTOL |
| *Unusual Steam Heating* | 80 | |
| *Instantaneous Hot Water* | 118 | G. H. LIPPENCOTT & G. H. LIPPENCOTT, JR. |

| NEWS | | DEPARTMENTS |
|---|---|---|
| | 5 | Names in the News |
| Issue "Oil Progress" Materials | 55 | |
| | 8 | Editorial Leaks |
| Portland, Ore. More Than 50% Oilheated | 57 | |
| | 10 | Oilheating Trends |
| Oilheating Continues Philadelphia Choice | 72 | |
| | 88 | Readers' Problems |
| 1947 Census Covers Oilburner Firms | 72 | |
| | 96 | New Products |
| Competitive Pricing for Indiana Standard | 78 | |
| | 109 | Everyday Snags |
| API Book on Oil Statistics | 82 | |
| | 117 | Readers' Forum |
| Shell Merges Units, Changes Name | 84 | |
| | 121 | Manufacturers' Activities |


FRONT COVER: Sheet metal shop run by Ralph A. Dunker, Chicago. The article on page 61 of this issue tells how he combines this operation with a successful retail fueloil business.

COPYRIGHT 1949, HEATING PUBLISHERS, INC. ALL RIGHTS RESERVED. NO PART MAY BE REPRINTED IN ANY FORM WITHOUT WRITTEN PERMISSION.
Acceptance under Sec. 34.64, P. L. & R., authorized.

VOLUME 8, NUMBER 6 OF FUELOIL & OIL HEAT. PUBLISHED MONTHLY BY HEATING PUBLISHERS, INC., BALTIMORE, MD., AND 232 MADISON AVE., NEW YORK 16, N. Y., SUCCESSOR TO FUELOIL JOURNAL (1922) AND AIR CONDITIONING & OIL HEAT (1928), OCTOBER, 1949.

HEATING PUBLISHERS, INC., 232 Madison Ave., New York 16
Phone: LExington 2-4566 & 4567

LEOD D. BECKER, *Chairman, Board of Directors*

A. E. COBURN, *Editor* — ROBERT GRAY, *Business Manager* — A. G. WINKLER, *Advertising Manager*

Lee Steedle, Advertising

Mid-West Manager: Harold J. Hannigan
549 W. Washington Blvd., Chicago 6 Phone: Central 6-0545

Pacific Coast Representative: Don Harway
1709 West 8th St., Los Angeles 14, Cal. Phone: Fairfax 8576
57 Post St., San Francisco 4, Cal. Phone: Yukon 6-1069

MEMBER CCA

Yearly: $3.00

Canadian: $4.00

single copy: this issue 35¢

# KEEP POSTED on RELATIVE HUMIDITY and TEMPERATURE

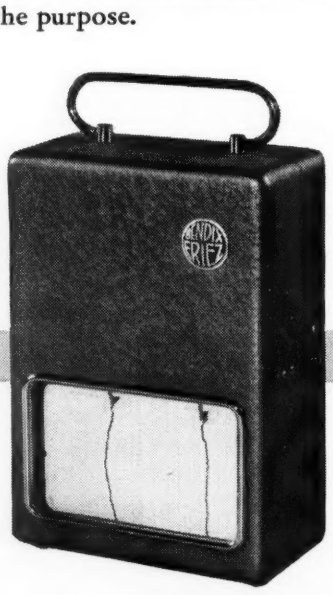
**Only genuinely accurate information will do when you are dealing with these important factors.**

This new and indispensable instrument for heating and air conditioning installations and service work is built by the manufacturer of the world's finest meteorological devices—suppliers to the United States Weather Bureau for over 70 years. Its accuracy is unchallenged—and the data it produces can be relied upon to give you exactly the facts you need. Remember, whatever your needs for humidity and temperature data, or wherever you need to collect them, Bendix-Friez makes the best instruments for the purpose.

***BENDIX-FRIEZ***

**Portable Humidity and Temperature Recorder, Model 160—**

3" x 5" charts, 8 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.




BENDIX FRIEZ

***FRIEZ INSTRUMENT DIVISION of***
**1330 Taylor Avenue**
**Baltimore 4, Maryland**

Bendix AVIATION CORPORATION

**Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.**


er equipment and oil combustion development. From Socony he went to Petroleum Heat & Power Co. and later to Anchor Post Products, from which organization he resigned earlier this year from the position of vice president and chief engineer.

*Thomas R. Byrley* has been named manager, Comfort Ray Radiant Baseboard Div., United States Radiator Corp., Detroit 26, Mich. Mr. Byrley, an experienced heating sales engineer, had been associated with A. P. Woodson Co., Washington, D. C. fueloil and oilburner dealers, since 1936. He is author of a boiler manual and has contributed many technical articles to trade magazines.

*John J. Carroll,* who since 1939 has represented the company in Indiana, has been made district manager of the Louisville, Ky., office of Neptune Meter Co., New York 20, N. Y. He succeeds the late Edwin L. Cantrell.

*Bruce C. Dickinson* recently was appointed sales manager, C. B. Strain & Co., Inc., Poughkeepsie, N. Y., distributors for a line of household appliances including General Electric heating and air conditioning equipment. Mr. Dickinson, who has been with the firm since 1931, except for a five year period with General Electric at Schenectady in a supervisory capacity, will be responsible for sales and advertising.

*William J. Young* has joined Boston Machine Works Co., Lynn, Mass., as direct factory representative for the BosMaco line of oilheating accessories, in central and eastern Pennsylvania, New Jersey, Delaware, Washington, D. C. and western Virginia. His background in the industry includes associations with H. B. Smith Co. and Automatic Burner Corp., as well as other companies in the heating field.

# Fueloil Expedients

## Another Season Should Not Repeat This Summer's Experiments

by
Robert Gray

NOT OFTEN HAS THE FUELOIL marketer had as many new things to try and digest in a short time as he had during the past summer. In some instances he didn't understand the implications well enough to move right in and play ball, so he dragged his feet. Some suspected that the remedies being tried—all in good faith—were against nature.

It was the good law of supply and demand . . . what we like to call a free economy . . . that got us into trouble. We made so much fueloil last fall and winter, at the attractive high prices, that we went over the top. The mild winter had its effect, but we had actually gotten refinery capacity up so high that we could have had the coldest winter on record and still turned out a fueloil surplus.

It was logical that prices would drop and they did . . . deep and wide. From December to May they had sagged 25% and the lucky dealer was the one who had only small storage capacity because, with things on the toboggan, he couldn't lose much on his inventory.

By late spring the marketers were tired of taking losses and, with the next heating season months away, they stopped buying. In an actual free economy prices would have continued to tumble and there would have been only minimum buying all through the summer.

But the oil industry had seen its demands grow too fast for its facilities to be sufficiently in balance to be able to tolerate such a situation. Only by moving heating oil in the summer could there be enough produced for next winter. In the public interest, supply and demand must step aside, and some way be found to get fueloil buying off dead center before too much refinery capacity had been bypassed.

The remedies came progressively. First there were guaranteed prices, then summer discounts, then publicity—much of it of the wrong kind—then came considerations of storage responsibility. Looking back, how do the remedies stack up? Do we want more of the same next year? If not, what planning can be undertaken to insure their being unnecessary? Since the whole of the problem and its solution is tied up on one way or another with summer storage, we might explore that first.

### Storage Responsibility

The way things have turned out these past few months it begins to look like there has been a lot of unrealistic wishful thinking about who should provide storage, where and how much. After giving thought to the situation, we now feel that retail marketers of fueloil should be left entirely free of any pressure or coercion by the supplier to buy anything at any special time unless it suits their own best interests. If these dealers don't want to take on a substantial load in summer they should not be urged to do it, beginning with next year.

Of course some dealers are from families that have extra money around, and if they want to put in large storage for speculative uses, well and good, but there should be no pressure from the supplier.

We're beginning to think that the primary supplies should build the necessary extra storage so that they could always be independent of the retailers' actions. East of the Rockies, dealers have about 22 million barrels of storage capacity for No. 2 heating oil. Depending on how these dealers want to handle their affairs, this storage could drop to as low as 20% of capacity and go as high as about 80% filled. Between those two points we have 13 million barrels as the widest range of fluctuation that might result from the individual wishes of the marketers.

Of course not all of them are going to act alike at one time, so we could accept 12 million barrels as the limit of fluctuation. We strongly feel that primary suppliers, to be independent of dealer storage, should, before next summer, build 12 million barrels of storage capacity at their terminals located at the head of pipelines or at the head of water transportation . . . in other words as near the consuming markets as it would be practical to build the largest size storage tanks. From summer to winter they would store fueloil and from winter to summer the tanks could be filled with gasoline.

One of our largest refiners has told us that he saves a cent a gallon on whatever winter heating oil he can pile up in the summer ahead. The reason, he points out, is that in the winter he can't make enough cracked distillate to meet the demand so he has to run in a quantity of virgin gas oil that is worth at least a cent more as gasoline stock.

### Terminal Storage Cheap

He can build this additional terminal storage capacity for a dollar a barrel or less, on land that he already owns, or if it happens to be in an area where he has to sink deep piling under the whole tank he can keep the cost within two dollars a barrel. Even in the few spots where the cost would be as high as two dollars a barrel, a saving of a cent a gallon would give the owner of the tanks a pretty sound investment.

Oilheating is going to keep on growing in number of installations, and there is no getting around the fact that ever larger amounts of storage capacity must be built somewhere along the line. A few major companies, two in particular, have talked a lot about the responsibility of consumers to provide this storage. That makes sense only if the consumer is offered a cash inducement to warrant his making the extra investment. Quite a number of markets now have different

prices for customers with large or small tanks, or for large or small individual drops. This is a practical arrangement because the dealer saves around a half cent in his costs.

Looking at the other side of it, our industry should never lose an oilburner installation by loading the price to carry a large tank if the prospect can't afford it. The fueloil industry as we now have it was built largely on the foundation of the 275 gallon tank and, let's not fool ourselves, that will remain the best seller.

### Consumer Storage Costly

So let's bless the consumer who will voluntarily put in large storage in his own best interests, but let's not be influenced too much by oil men who have been saying that the responsibility for the industry's greater storage lies at the consumer level. Here are some figures that have been stated before but are worth repeating: To provide the increasingly larger storage that the industry will need would cost one to two dollars a barrel at the water or pipeline terminal; it would cost from four to eight dollars a barrel at the dealer's bulkplant; it would cost from 12 to 18 dollars a barrel on the consumer's premises.

Where should the dealer fit into this problem of providing more storage? When we recognize the fact that he is going to be operating on rather close margins through most of his business life, he could not invest in more storage than he absolutely needs to accommodate his method of buying and provide a small safety margin for emergencies.

Let's consider an imaginary small dealer who sells this year a half million gallons of No. 2 furnace oil. In his heaviest month, which might even be much colder than normal, he would sell 6,000 to 7,000 gallons a day. Since the peak period is relatively short, he'd be safe for all practical purposes with a capacity of 50,000 gallons. That is 10% of his annual sales, or a turnover of storage capacity ten times a year. Fueloil marketers over the country as a whole average about a 12 time turnover of storage capacity, but that includes the coldest areas where their winter peak is spread out over quite a few weeks and they don't get as sharp a peak in any single month. Under those conditions their capacity can be smaller and still be safe.

Getting back to this imaginary small dealer, his inventory at any time can't be over 10 percent of his annual volume so he can't get hurt much on changes in the price. When dealers do have extra money and like to gamble on prices they're in line for bigger tanks . . . that's fine if a man is a speculator rather than a merchandiser, but in any event he should in his own interest consider his profits or losses on inventory as something totally apart from the normal operation of a fueloil business on the customary margins.

As a rule, the fueloil man who uses all of his mental energies in getting new customers, and treating them right so they will stay with him, can make more money than the dealer who devotes a lot of his time to studying the future markets and plunging on inventories.

### No Cash to Gamble

With very few exceptions, fueloil marketers can't afford to be speculators. They operate on too thin balance sheets to be able to take those chances. You'd have to look a bit to find other businesses where dealers handle so large a dollar volume on so little working capital as you find in fueloil.

If we could expect margins to be substantially higher, then any dealer could be more liberal with outlays for greater storage capacity, or for bank and insurance charges on larger summer stocks, but since there is nothing in sight to point to wider margins in general the sound course would seem to call for playing it close.

Last May at the meeting of the Empire State Petroleum Assn. up in Elmira, New York, there was a speaker named Raymond Kraemer from New York City. He is a public accountant and he had been hired to make a study of three good sized fueloil distributors in New York suburbs. At the Elmira meeting he showed us in considerable detail what he found, without of course naming the companies. All three were well-known dealers averaging around six or seven million gallons each of No. 2 oil and they were considered to be successful.

Most of Kraemer's talk was devoted to their operating costs stacked up against their margins. That was of interest, but to me the most significant things he had discovered showed up only on some sheets he handed out. It was the financial ratios that he pulled from their balance sheets that showed how fueloil marketing, even in good companies, is a shoestring business.

Here are some of those ratios:

| | |
|---|---|
| Current assets to current liabilities | 1.2 times |
| Net profit on net worth | 7.5 percent |
| Net sales to net worth | 5.7 times |
| Net sales to net working capital | 42.3 times |
| Net sales to inventory | 11.7 times |
| Inventory to net working capital | 362.8 percent |

These are only a few of the items to show the kind of ratios Kraemer had worked out; there were several more. To see what these would look like in actual dollars on a balance sheet, it was only necessary to arbitrarily select one figure and the ratios would then give you all of the rest in their true relationship. So we made the assumption that the typical company in this group had a net worth of $100,000 and as the other figures then fell into line it became more and more amazing how big a fueloil business can be done on how little real cash. Here are some of the disclosures, all based on the average 1948 experience of three good companies:

| | |
|---|---|
| Assuming net worth | $100,000 |
| Net profit | 7,500 |
| Net working capital | 13,562 |
| Net sales | 573,673 |
| Net inventory | 49,031 |
| Fixed assets | 91,600 |
| Current assets | 107,400 |
| Current debt | 89,500 |
| Funded debt | 22,635 |
| Gallons sold | 5,215,000 |

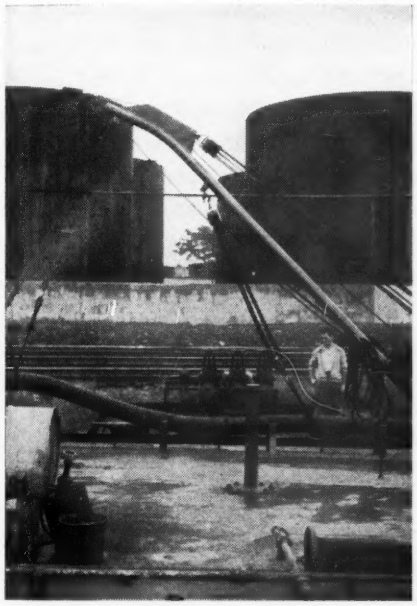
Such companies are clearly operating to a considerable degree on their suppliers' capital. With current debt nearly double the inventory and with inventory nearly four times the net working capital, the only way such companies keep going is through fast turnover. These were 1948 figures; 1949 could hardly be much better.

### Don't Press the Dealer

There's not much question about it—the fueloil distributor should not be expected to carry a dollar more in inventory at any time of year than he knows he wants. In other words, he should not be expected to carry the burden of summer storage unless, perhaps, he could be given special compensation.

What shall we say about the guaranteed fueloil prices that we had this past summer? There is no question but that these served a useful purpose by getting oil to start moving in a temporary emergency period. There was some disappointment over the volume that moved, but at least there was a start in the right direction. That was back in May and June when it was becoming more sure every day that something must be done, because so many dealers had been nicked by the falling prices and were taking no further chances.

A guarantee against future inventory losses was the only quick solution to get



action. Not all fueloil distributors liked the program for several reasons of their own. Most of that group objected to the idea of passing the same assurance on to their customers, which was part of the arrangement initiated by the majors in handling their own direct retail accounts. The dealers didn't like the book work that loomed ahead, making adjustments with customers at the end of the summer. We've seen that fueloil distributors don't often make too much money, which means that in summer their manpower is reduced so much that it is not to their advantage to stir up the customers with anything special along this line.

Yet with all of its drawbacks, there's no question but that the price guarantee did quite a lot of good this year. Let's hope it never again has to be invoked. The sooner the experience is forgotten the better, for dealers and consumers.

A totally different project was the special discount for July and August to encourage summer fill-ups. Again this worked moderately well. A lot of dealers complained, some of them rather loudly, about having to pass all or most of the discount along to their customers. They took the position that this should have been left to their own discretion.

Some dealers have as high as 95% of all of their customers on an automatic delivery basis, and these dealers had gone ahead all summer making the customary drops whenever the tank was low enough to take an economical fill. There was little need for them to pass along a summer discount. Other dealers, especially small ones, may have most of their customers on a call-in basis, and after all the publicity in the papers about oil prices dropping, it is understandable that a special summer discount to them might stimulate action.

### Dealer Discount Only

Looking back over the summer's experiences and industry comments, it becomes clear that the dealers would prefer a summer discount at the wholesale level only. As a suggestion, this might be graded on some such basis as 7/10¢ in June, 5/10¢ in July and 3/10¢ in August. Not many dealers would pass this along to customers, so the principal value in the discount would be as a spur to extraordinary effort to keep the product flowing.

In this connection it's well to recognize that fueloil marketers lose money in summer months. A special high margin for that period would be a bright spot that might prevent red ink for dealers that were willing to push hard for deliveries.

Of course, we'd have the old bugbear of the man who would use the extra margin to cut prices and steal some customers. That excuse has been much overworked. It does happen, but it can affect only a small share of a total market.

Not so long ago we were having a round table discussion in a large Eastern city and some of the dealers were complaining about price cutters. The complaints didn't seem especially bitter and obviously no one was badly hurt, but as usual they provided a source of gossip. Just to start something, these dozen dealers were asked to estimate what percent of all companies selling fueloil in the city were below the general market. The composite opinion was ten percent of companies. Then an estimate of their annual gallonage was attempted, company by company, and the total of this low priced business appeared to add up to 1/10 of one percent of the market.

A special summer discount to dealers only would principally result in their taking the extra profit, and only rarely in their underselling the market. A dealer who has built a strong and loyal customer group has little to fear from a competitor's temporary price offers . . . as a rule he'll at least get a hearing. Customers that are easily won away on any basis have had some unhappy treatment from their old dealer somewhere along the line.

In many areas, dealers have good reason to ask for higher margins, and although they rarely get what they want, yet the problem is one of constant concern to their suppliers. Why isn't it a good idea to relieve some of this margin pressure through the medium of the summer discount, not only to move product faster at the critical period, but also to pay the dealer well for his special effort.

Petroleum jobbers who have a seasonal balance of gasoline and fueloil don't have nearly as much of a profit problem as the exclusive fueloil distributor. At the same time these jobbers would unquestionably be influenced by larger margins in summer on fueloil to the point of making a very real effort to fill tanks.

### Harmful Publicity

Maybe we're getting sensitive, with all of the problems our industry has to tackle, but during this summer we have several times been disturbed over what we thought was unnecessary and harmful publicity put out in press releases by the large oil companies. Why is it that every time there is a change in prices someone has to do a story for the public? There would have been many more summer fill-ups by consumers this year, especially those not on automatic deliveries, if as an industry we hadn't kept bragging in the public press that fueloil has dropped again and again.

(*Continued on page 127*)

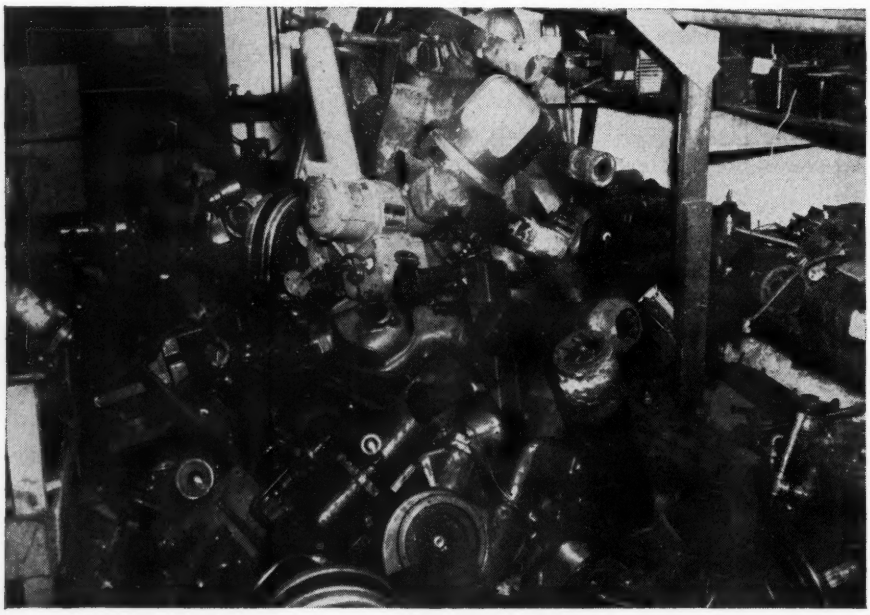
# Too Busy to Worry

## Madsen of Minneapolis Sells Oilburners Galore in Cheap Gas Area

In the 16 month period from June 1, 1948 to October 1, 1949 the gas company in Minneapolis approved the installation of 13,000 new home heating jobs to use its fuel. Apparently that completes the load for the heating season ahead and few if any additional homes will be added for a little time. Meanwhile, oilheating installations dropped to an unfavorable ratio to gas of about one to six. Not only was the gas utility doing a vigorous selling job, but its fuel was cheap.

The business of oilheating dealers was depressed badly, particularly that part of it within the cheap gas neighborhoods. There were a few exceptions, one of them noteworthy. Arnold and Louis Madsen, operating as Madsen Service, have sold more oilburners in recent months than in their previous history. For example, they sold just under 300 in 1948, making them probably the city's largest dealer by that yardstick.

**Showroom wall** *discloses Madsen's theme song for burner replacements, as he fights gas by reducing oilheating costs.*



**Six Dollars A Ton** . . . *Madsen piles up the burners he's replaced, because junk dealers will only pay six dollars a ton and they're worth more to him.*

Eight years ago Arnold Madsen was a service man. He saw an opportunity with the war coming on to tack out his shingle as an independent service organization and quickly got some customers through local oil companies. Today there are 8,000 service customers on the company's active list, and a dozen service men look after them. He does not use service contracts but charges $3.50 minimum per call and averages around $15 a year per customer in service billing, including cleanups, parts and whatever.

But this is not a service story—it's about burner sales. With 8,000 service customers it is understandable that there would be some burner replacement sales in the natural course of things. Madsen on the other hand doesn't wait for things to take their natural course. He pushes. He sells a private brand burner, called "Madsen," with a Shell combustion head. He became enthusiastic about the fuel savings possible with that head, and this enthusiasm generated a real sales push. Using two full time salesmen, both former service men, he's selling his new burner to anyone who will take an interest, even though the man may have an oilburner of reputable make not more than two or three years old. About 75% of the company's sales are replacements of old oilburners . . . the balance are conversions from coal.

### Fuel Costs Highlighted

In an atmosphere of gas company advertising of low fuel costs, a lot of oilburner users in Minneapolis are doing some thinking. There is no evidence of a serious number of oilburners coming out to be replaced by gas . . . Madsen says it's less than one percent in his experience . . . yet you could say that a lot of citizens have been made conscious of fuel costs. This sets the stage for

**Arnold Madsen,** *at left, looks after sales and administrative functions. His brother,* **Louis Madsen,** *in center, handles engineering development of the burner and supervises all mechanical operations. The third man is* **Roman Zins,** *a shop mechanic. The showroom, office and shop is located on an expensive retail street in an outlying residential section of Minneapolis. A banner above the awning features the Shell Combustion Head, a feature of the Madsen burner.*

Madsen's men to point out that the way to get really low fuel costs is to put in a burner that saves a fourth of the fuel.

Coal is high priced—$24.75 for Pocahontas, the favorite, so with oil under 11¢, only gas has to be considered as competition. Madsen has learned that a great many people wouldn't want gas at any price so he sees no reason why oilburners won't continue to sell if pushed. He mentioned that there were in Minneapolis ten gas explosions in one recent ten day period and in two of the instances the homes were completely obliterated. These stories get around and have an effect.

Madsen Service has gas equipment to sell "for competitive purposes" but its principal business is oilheating. The Madsen burner sells installed with a 265 gallon basement tank for $427.

In the basement and garage of the service building are piles of old oilburners that have been replaced. Some look new and modern. Madsen says they're there because junk dealers will give him only six dollars a ton for them. No doubt that's true but the twinkle in his countenance as he says it is to let you know that they are piled up there to impress prospects.

Madsen calls himself a "dumb Swede," by which he probably means that he's too dumb to know you can't sell burners in a cheap gas market so he ignorantly goes ahead with the selling. Then there was another grin in his explanation of the company's service policy, "Never argue with a customer . . . he's always right," but if he's right too many times you can always drop him as a customer.

# Committee Issues Materials For "Oil Progress" Celebrations

THE OIL INDUSTRY celebrates "Oil Progress Week" October 16-22, and oil men prominent in community affairs throughout the nation will be well supplied with the tools to make the event a success.

To insure the highest degree of effectiveness at the local and regional levels, the Oil Industry Information Committee has prepared a special promotional kit designed to guide oil men and oil companies in planning their participation. Distribution is being carried out through the district committees of the OIIC.

Each kit includes five separate folders, containing pattern speeches, radio scripts, tie-in advertising, printed materials and aids to publicity. An order blank is enclosed for obtaining slide films, exhibits and additional materials.

Designed to acquaint the public with the strides made by the industry in its first 90 years, Oil Progress Week will provide local oil men and their companies with an opportunity to report directly to the people of their communities. Activities now being arranged include personal and radio addresses, displays and exhibits, company "open house" receptions, and intensive programs of advertising and publicity.

The kit's publicity aids include a model proclamation to be issued by local mayors, newspaper editorials and feature stories, a "clip sheet" and mats, and a "background resume" of the industry's accomplishments. Among the printed materials are an illustrated pamphlet, a leaflet, and a window poster, all of which may be ordered in quantity. Mats of 15 sample newspaper advertisements may be ordered free of charge, and a copy fact sheet to assist companies in preparing their own advertising is included.

Recently, the OIIC distributed a "Community Operating Plan," which offered suggestions for promoting Oil Progress Week. In this 16-page booklet numerous techniques for spreading the industry's message are reviewed, including movie showings, employee meetings, service station displays, and classroom events for schools. It is emphasized, however, that the OIIC "Plan" is intended as a suggestion list only, and that the success of Oil Progress Week will depend on local imagination and initiative, and on the degree of participation by the oil men and oil companies of each community.

# Easing Fuel Payments

## Smaller Bills, Convenient Locations, Help Customers

by
A. E. Coburn

TIME WAS, and not so very long ago, when the size of the individual fuel bill, drop to drop, was not too important. Everything was high in price, and fuels were no exception. Some dealers are finding that the size of individual bills are a factor in their collections these days. Larger tanks were in use for the first time on many installations last winter, and the larger size of each fill bothered a few owners.

Added to their other costs of living, many new users of oilheating equipment on the Pacific Coast were introduced to this new and luxurious type of heating in the coldest winter the area has experienced for some years. This added load upped the estimated consumption an average of about 10%, further inconveniencing users, and slowing collections.

A few dealers have attempted to do something about the size of the individual bill a customer receives. Ideas on the subject follow generally the same pattern, though the details vary widely.

Thomas P. Allen, manager of the Acme Fuel Co., Olympia, Wash., has inaugurated an "Equi-Pay" fuel account which divides the estimated annual fuel bill into ten equal payments. Payments start in September and run through to the next spring in equal monthly instalments. The customer builds a small fund to cover the heavier fuel demand in the winter months. Regardless of the amount of oil he may use in any month, the bill remains the same for each of the ten monthly payments.

### Fixed Income Problem

"We have a problem many other dealers may not experience to the same degree," Mr. Allen explains. "Olympia is the capital of Washington, and many of our customers are state workers on a regular, but not a large salary. Many other residents are retired and living on fixed incomes in the form of pensions and annuities. The sharp increase in living costs in recent years has hit these people hard. Many of them find it a real hardship to meet their fuel bills promptly during the coldest months of the year. Our Equi-Pay plan is designed to allow as many as wish to spread their fuel bills across a longer period and reduce the size of the individual payment. Such a plan has been particularly popular with those people on fixed incomes."

The plan is simple. Based on the last annual fuel bill, a bracket is established and a payment calculated for each of the next ten months. If the last year's total cost of fuel is not known, the amount is estimated by the company, and a monthly payment established.

Customers whose last year's fuel cost between $85.01 and $90.00 pay ten monthly installments of $9.00 each. If the total cost last year were $100.01 to $110.00 the ten payments would be $11.00 each. Similar brackets are established for all amounts from $50 to $200 in steps of $5 each up to $100, and $10 each from $100 to $200.

Since neither the company nor the customer can be positive of the total amount of fuel that will be used in a heating season, or of the price of the fuel, an adjustment is made at the end of the heating season to bring total debits and credits into balance.

Much the same end is reached by Manerud-Huntington Fuel Co., in Eugene, Ore., though no attempt is made to divide the annual oil bill into exactly equal payments. This company delivers on a regular schedule by agreement with the customer, dropping relatively smaller amounts of oil at stated times of the month. In this way the charge for the individual drop is kept low, though the customer pays for his oil as it is delivered.

"The primary purpose of our system is to make possible better routing of our equipment," C. R. Manerud says. "We

do not use a degree-day system of automatic delivery, but prefer to operate our trucks over regular routes at specified times. By agreement with our customers they take oil at regular periods each month or as often as we agree to deliver. We believe we can make better use of our equipment in this way, and it does keep the individual payment small."

The company operates from a Kardex and signal system that shows each customer's requirements. Experience regulates the size and frequency of delivery much the same as with the degree day system, though no detail figures on the weather are kept.

### Bank Receives Payments

To facilitate payment of bills Liberty Fuel & Ice Co., Portland, Ore., has arranged with the collection department of the United States National Bank at its main office and seven branches to receive all payments for fuel. The branches are located widely across the city and are convenient to almost every area where the company delivers oil.

"Our office and plant are not centrally located," Charles R. Holloway, Jr., explains. "It has been difficult for many of our customers to come in to pay bills,

## THE "EQUI-PAY" FUEL ACCOUNT

To Determine the amount of your monthly fuel payment on an "EQUI-PAY" Fuel Account, follow these simple rules:

1. Determine the total gallons of oil you consumed last heating season (September through June)
2. Multiply the total gallons by the current selling price and add Sales Tax.
3. Use the total COST from Step 2 (above) and refer to the handy "EQUI-PAY" Payment Table.
4. Read across to your monthly payment.

If you do not have last year's gallonage figures available, PHONE US—OR just Sign the Agreement below and we will "figure" the monthly payment amount and let you know.

**OPEN YOUR "EQUI-PAY" FUEL ACCOUNT NOW—SIGN AND RETURN THE "EQUI-PAY" AGREEMENT BELOW.**

THE ACME FUEL CO.
"EQUI-PAY"
FUEL ACCOUNT
Payment Table

| If your total oil COST last year was: | | | Divide by: | Amount Payable Monthly is: |
|---|---|---|---|---|
| Up | to | $ 50.00 | 10 | $ 5.00 |
| $ 50.01 | to | 55.00 | 10 | 5.50 |
| 55.01 | to | 60.00 | 10 | 6.00 |
| 60.01 | to | 65.00 | 10 | 6.50 |
| 65.01 | to | 70.00 | 10 | 7.00 |
| 70.01 | to | 75.00 | 10 | 7.50 |
| 75.01 | to | 80.00 | 10 | 8.00 |
| 80.01 | to | 85.00 | 10 | 8.50 |
| 85.01 | to | 90.00 | 10 | 9.00 |
| 90.01 | to | 95.00 | 10 | 9.50 |
| 95.01 | to | 100.00 | 10 | 10.00 |
| 100.01 | to | 110.00 | 10 | 11.00 |
| 110.01 | to | 120.00 | 10 | 12.00 |
| 120.01 | to | 130.00 | 10 | 13.00 |
| 130.01 | to | 140.00 | 10 | 14.00 |
| 140.01 | to | 150.00 | 10 | 15.00 |
| 150.01 | to | 160.00 | 10 | 16.00 |
| 160.01 | to | 170.00 | 10 | 17.00 |
| 170.01 | to | 180.00 | 10 | 18.00 |
| 180.01 | to | 190.00 | 10 | 19.00 |
| 190.01 | to | 200.00 | 10 | 20.00 |

(Tear along dotted line)

To: ACME FUEL CO.
416 State Ave.,
Olympia, Wash.

(Date)

**"EQUI-PAY" AGREEMENT**

Please set up an "EQUI-PAY" Fuel Account for me.

My estimated consumption of oil for this coming heating season, (September ..... thru June ..... ) is ..... * gallons, for a total cost of $..... *.

I understand that my "EQUI-PAY" monthly payment will be $..... *. I will make my first payment in September ....., and then each month thereafter, with the final BALANCING payment in June ..... .

NAME .....

ADDRESS .....

*P.S.—If you wish, just sign this slip and return, and we will fill in the above figures and notify you as to the amount of your monthly payments.

**Three-part card** *used by Acme explains the system of payment, provides a table of charges and an application for an "Equi-Pay" account.*

and a surprising number—particularly stove oil users—pay by cash rather than by check. The bank makes a small charge for handling each payment, but it is a trivial amount to pay for the convenience of our customers and the promptness that is encouraged by this "Liberty office" in their neighborhood. The bank likes the system since it fosters a habit of doing business at its branches."

Liberty also has inaugurated a system of return post card ordering for those stove oil users and others who are not on automatic delivery. A series of five return cards are sent to each customer who is not on keep-fill service. By tearing off a card as needed and filling in a name and address the customer can order before he runs completely out of oil. A blank allows the customer to order a specific number of gallons, or if left blank, the storage filled to capacity.

These are but a few of the efforts that are being made to keep customers happy, encourage prompt payment of bills, and build good will in the face of rising costs and not-so-rising incomes.

## Portland, Ore., Homes More Than Half Oilheated

APPROXIMATELY 57.5% of all homes in Portland, Oregon, use oil for their heating fuel, according to a broad telephone survey conducted under the auspices of Bill Alexander, manager of Oregon Heating Industries. Central heating oil-burners account for 48.7% of total homes and oil space heaters 8.8%. Other fuels listed and their percentage of homes using them are: Wood 8.0%, Sawdust 9.0%, Coal 3.5%, Briquets 7.0%, Gas 10.8%, Electricity 3.7% and Presto-logs 0.5%.

## U. S. Department of Labor Fueloil Prices (July)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken July 15 (cents per gallon):

| | *Range* | *No. 1* | *No. 2* | *No. 3* |
|---|---|---|---|---|
| Boston | 12.93 | 12.75 | 11.10 | .. |
| Manchester | 13.90 | 13.05 | 11.60 | .. |
| Portland, Me. | 12.20 | 12.20 | 10.40 | .. |
| [3] Buffalo | 13.08 | .. | 12.46 | 12.37 |
| [1] New York | .. | .. | 10.32 | .. |
| Philadelphia | .. | 11.78 | 10.20 | .. |
| [1] Chicago | 12.79 | 12.45 | 11.53 | 11.53 |
| [5] Detroit | .. | 13.90 | 12.88 | .. |
| Milwauke | .. | 13.00 | 12.00 | 12.00 |
| [1] Kansas City | .. | 12.32 | 11.32 | 11.32 |
| Minneapolis | 12.67 | 12.43 | 11.38 | 11.43 |
| [1] Baltimore | .. | 11.53 | 10.48 | .. |
| Wash., D. C. | .. | 11.93 | 10.72 | .. |
| Jacksonville | .. | 13.20 | 12.22 | .. |
| Norfolk | .. | 11.78 | 9.80 | 9.80 |
| Richmond | .. | 12.10 | 10.30 | .. |
| [2] Savannah | .. | 13.70 | 12.28 | .. |
| [6] New Orleans | .. | 13.50 | 11.59 | 11.59 |
| Portland, Ore. | .. | 13.94 | 11.64 | 6.55 |
| [4] San Francisco | .. | 13.70 | 11.38 | 6.45 |
| [5] Seattle | .. | 14.77 | 12.65 | 6.74 |

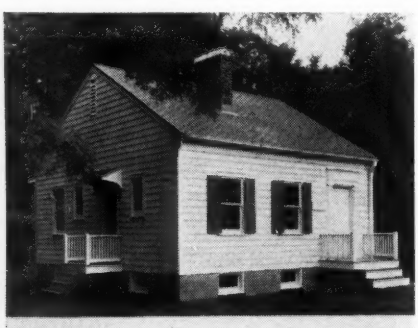
[1] Prices include 2 percent tax.
[2] Inspection tax of one cent per gallon included on kerosene only.
[3] Prices include 1 percent tax.
[4] Prices include 3 percent tax on all fuels except gas.
[5] Prices include 3 percent tax.
[6] Prices include 3 percent tax on all fuels except gas; also prices for fueloil No. 1 include one cent per gallon state health tax, and 1/32 of one cent per gallon state inspection tax.

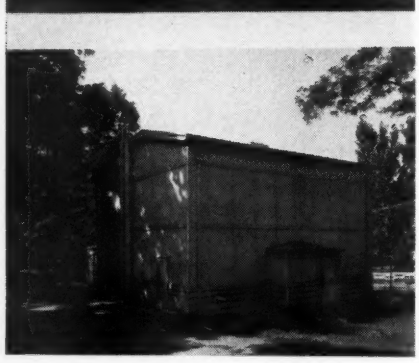
# Baseboard Heating

## Bureau of Standards Tests Show Uniform Room Temperatures

"THE BASEBOARD heating system provides more comfortable environments in dwelling homes than many of the systems used in the past," reports the National Bureau of Standards at the conclusion of a series of tests which were part of its investigation into heat transfer characteristics in small houses. The studies were prompted by the increasing use of baseboard radiators and convectors in many basementless houses where a first-floor heating system is necessary.

Tests covered the temperature distribution in a four-room test bungalow under various outside temperature conditions, in addition to the installation and operational problems involved. A study of characteristics of two types of room temperature controls with such a system also was made.





**Top:** *Test bungalow constructed for heat transfer research in small homes by the National Bureau of Standards. All four rooms of the house, except the bath, are provided with movable ceilings, adjustable by overhead screw jacks to any height between 7 and 9 feet.*

**Bottom:** *The insulated enclosure which completely surrounds the house, enabling maintenance of any temperature conditions outside the house.*

The Bureau recognizes certain inherent disadvantages in the baseboard heating system; "Mainly the difficulty of fitting the system to the variable dimensions of conventional houses and the inability to control the heat output to individual rooms."

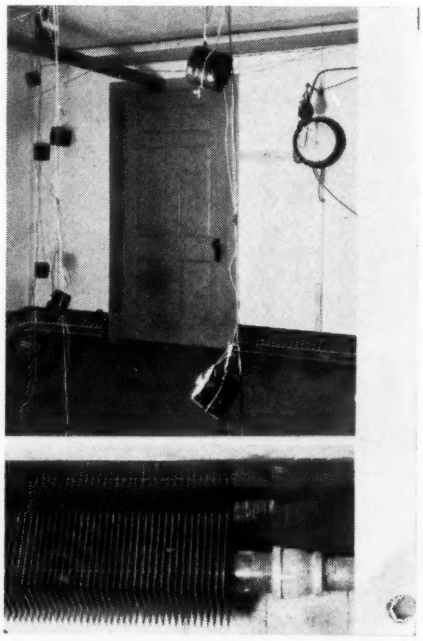
The temperature differences from the floor to head level and from room to room are important in judging the comfort provided by a heating system. Satisfactory uniformity is often difficult to attain with inexpensive heating systems. A great many small houses have been built in recent years with concrete floors laid on the ground or with floors laid over shallow crawl spaces. This construction has necessitated placing the heating plant on the first floor in most cases and has eliminated any direct warming of the under side of the floor.

Several types of baseboard heating systems have been developed recently; some use hollow cast-iron elements, either finned or unfinned, and others have finned steel pipe or finned copper tubing with shields or covers partially enclosing the heating elements. These systems use elements not much thicker or higher than a baseboard around the entire perimeter of the living space. An additional advantage claimed for this type system is that the heating elements are almost entirely removed from the useful living space.

The baseboard heating system installed in the test bungalow at the National Bureau of Standards consisted of lengths of finned 1¼-inch iron pipe under the windows connected by unfinned 1-inch standard pipe and partially enclosed by a perforated sheet-metal cover. The fins were 3½ inches square and were spaced ¼-inch apart on the pipe. Heat was transferred primarily by convection of air through the enclosure and over the finned surface. Hence the system has been termed a baseboard convector heating system.

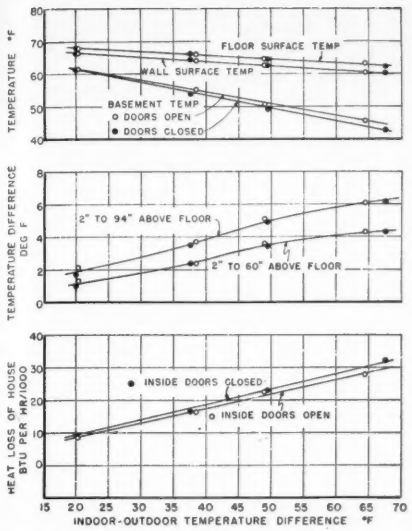
Two types of controls were used for the tests: (1) a conventional wall-type electric thermostat and (2) a modulating control employing an outside thermostat and a three-way valve that mixed the boiler supply and return water to vary the temperature of the water entering the system.

The Bureau's test bungalow, which conforms to FHA specifications for a low-cost house, is completely enclosed by an insulated outer shell so that the temperature may be varied to simulate any condition throughout the United States. It is of frame construction and has four rooms and a bath, which are connected by a hallway near the center of the house. There is a full basement under the living quarters, although this feature was not a consideration in the present tests. The outside walls of the structure are of conventional frame construction and consist of 2- by 4-inch studding with sheathing and lap siding on the outside separated by a layer of building paper. The inside wall finish consists of ½-inch plasterboard nailed



**Top:** *Baseboard convector in living room of test bungalow, with its perforated metal housing in place. The strings support five thermocouples at 2, 30, 60, 78 and 94 inches above the floor.*

**Bottom:** *A close-up view of a finned convector element without the metal enclosure.*




**Graphs** *showing relation of heat loss, vertical temperature differences, basement temperature, wall-surface temperature difference for the baseboard convector system with room thermostat control.*

directly to the studding. A double-wood floor is used with 1-inch rigid insulation nailed directly to the underside of the floor joists. The ceiling of the living quarters is ¼-inch plywood supported by frameworks of 2- by 4-inch members and covered by 3⅝-inch of rock wool insulation.

Temperatures were measured in the test bungalow by means of thermocouples supported by strings attached to the ceiling. Five strings of five thermocouples each were located in the kitchen, living room, and the two bedrooms with one string suspended at the center of each room and one midway between the center and each coner of these rooms. Three strings of five thermocouples each were used in the bathroom. The five thermocouples on each string were permanently installed at distances of 2, 30, 60, 78, and 94 inches above the floor.

Other thermocouples were used to measure the temperatures outside of the bungalow, on the inside and outside surfaces of the exterior walls, on the floor surfaces, in the basement, in the attic, and at several places on the hot water pipe encircling the house.

The temperature distribution was observed in the bungalow while a temperature of 70°F was maintained at the 30-inch level for outside air temperatures of 50° F, 32°F, 20°F, and as near 0°F as could be attained. In addition to the investigation of the temperature distribution in the four rooms with a steady outside temperature, the characteristics of the modulating valve and outdoor-thermostat control system were observed when the outdoor temperature was varied between 0°F and 40°F as rapidly as the refrigerating system permitted.

The pickup characteristics of the baseboard convector system, when controlled by the outdoor thermostat, were also observed. The two bedrooms were cooled down to 50°F by opening the windows, thus simulating the practice of many people who sleep with the bedroom windows opened. When the bedrooms reached a temperature of 50°F, the windows were closed and the recovery of the temperature in the bedrooms was

**Table 1.**

TEMPERATURE DISTRIBUTION PRODUCED BY BASEBOARD CONVECTOR WITH ROOM THERMOSTAT
(Inside doors open)

| | Test number | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Outside temperature, °F | 49.9 | 31.6 | 20.7 | 4.9 |
| Heat loss of house, Btu/hr | 8,650 | 16,280 | 22,410 | 27,970 |
| Average room temperature: | | | | |
| 2 in. above floor | 69.2°F | 68.1°F | 66.9°F | 66.0°F |
| 30 in. above floor | 70.2 | 70.1 | 69.7 | 69.4 |
| 60 in. above floor | 70.5 | 70.5 | 70.4 | 70.3 |
| 78 in. above floor | 70.9 | 71.1 | 71.0 | 71.1 |
| 94 in. above floor | 71.3 | 71.8 | 71.9 | 72.0 |
| Vertical temperature difference: | | | | |
| 2 to 60 in. above floor | 1.3 | 2.4 | 3.5 | 4.3 |
| 2 to 94 in. above floor | 2.1 | 3.7 | 5.0 | 6.0 |
| Basement temperature | 61.7 | 55.2 | 50.7 | 45.9 |
| Attic temperature | 56.1 | 46.8 | 40.5 | 35.7 |
| Floor surface temperature | 68.0 | 66.3 | 64.9 | 63.3 |
| Wall surface temperature | 66.6 | 64.1 | 62.9 | 60.4 |

**Table 2.**

TEMPERATURE DISTRIBUTION PRODUCED BY BASEBOARD CONVECTOR WITH ROOM THERMOSTAT
(Inside doors closed)

| | Test number | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Outside temperature, °F | 49.9 | 32.1 | 20.1 | 0.8 |
| Heat loss of house, Btu/hr | 9,220 | 16,530 | 23,020 | 32,260 |
| Average room temperature: | | | | |
| 2 in. above floor | 69.0°F | 67.7°F | 66.9°F | 64.8°F |
| 30 in. above floor | 69.9 | 69.7 | 69.6 | 68.4 |
| 60 in. above floor | 70.0 | 70.1 | 70.3 | 69.1 |
| 78 in. above floor | 70.3 | 70.7 | 70.9 | 70.3 |
| 94 in. above floor | 70.7 | 71.3 | 71.8 | 71.0 |
| Vertical temperature difference: | | | | |
| 2 to 60 in. above floor | 1.0 | 2.4 | 3.4 | 4.3 |
| 2 to 94 in. above floor | 1.7 | 3.6 | 4.9 | 6.2 |
| Basement temperature | 61.3 | 54.0 | 49.3 | 42.9 |
| Attic temperature | 55.7 | 46.6 | 40.9 | 32.9 |
| Floor surface temperature | 68.1 | 66.2 | 64.5 | 62.2 |
| Wall surface temperature | 66.6 | 64.5 | 62.8 | 60.3 |

**Table 3.**

TEMPERATURE DISTRIBUTION PRODUCED BY BASEBOARD CONVECTOR WITH OUTSIDE THERMOSTAT AND MODULATING VALVE
(Inside doors closed)

| | Test number | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Outside temperature, °F | 50.1 | 32.0 | 20.5 | 0.9 |
| Heat loss of house, Btu/hr | 12,600 | 19,520 | 24,750 | 29,480 |
| Average room temperature: | | | | |
| 2 in. above floor | 71.2°F | 70.2°F | 68.5°F | 64.4°F |
| 30 in. above floor | 73.0 | 72.4 | 71.2 | 68.6 |
| 60 in. above floor | 73.2 | 72.9 | 72.0 | 69.4 |
| 78 in. above floor | 73.5 | 73.4 | 72.8 | 70.2 |
| 94 in. above floor | 73.9 | 74.0 | 73.5 | 71.1 |
| Vertical temperature difference: | | | | |
| 2 to 60 in. above floor | 2.0 | 2.7 | 3.5 | 5.0 |
| 2 to 94 in. above floor | 2.7 | 3.8 | 5.0 | 6.7 |
| Basement temperature | 52.2 | 48.9 | 45.3 | 42.4 |
| Attic temperature | 57.3 | 47.9 | 41.2 | 33.5 |
| Floor surface temperature | 69.3 | 67.7 | 65.6 | 62.5 |
| Wall surface temperature | 69.4 | 66.6 | 64.3 | 59.5 |
| Average water temperature | 128.2 | 159.2 | 178.8 | 191.9 |

observed while the interior doors remained closed. The temperatures in the kitchen and living room and the supply water temperature were also recorded during this transient condition.

The averages of the temperatures recorded in the test bungalow at each of five levels above the floor are tabulated in tables 1 and 2 for the tests using the room thermostat control and in table 3 for the tests using the outside thermostat control. The vertical temperature differences between levels are also shown in these tables.

The test results showed that comparatively small temperature differences existed between rooms and between different levels in the same room with this type heating system for the range of outside temperature from 50°F to 0°F. However, the temperature differences increased in magnitude both horizontally and vertically as the outside temperature decreased. The vertical temperature gradient ranged from 0.3°F per foot above the floor for an outside temperature of 50°F to 0.8°F per foot on an outside temperature of 0°F. A comparison of the results in table 1 when the interior doors of the bungalow remained open with those in table 2 when the doors were closed shows that the temperture differences in a vertical direction were not appreciably affected by closing the doors. The maximum temperature difference between any two rooms in the living zone* ranged from 0.7°F to 1.4°F with the interior doors open and from 1.4°F to 3.6°F with the interior doors closed for an outside temperature range 50°F to 0°F.

The heat loss of the test bungalow observed at the different outside temperatures is shown in tables 1 to 3 for the two methods of heating system control. The heat loss of the structure is shown to be directly proportional to the difference in temperature between the inside air and the outside air, although the heat loss averaged about 5 percent greater when the interior doors were closed. This greater heat loss when the doors were closed was due primarily to the overheating of the bathroom (used as a utility room).

The control of room temperature by the outdoor thermostat and modulating valve for rapidly changing outdoor temperature was observed. The results show that some overheating of the house occurred during periods of rapidly falling outdoor temperature and that some underheating occurred during periods of rapidly rising outdoor temperatures. This phenomenon was to be expected because the temperature of the supply water was changed immediately in response to counter changes in outdoor temperature whereas the inside air temperatures did not feel the effect of the outdoor temperature change for an hour or more because of the thermal lag of the exterior walls.

The pick-up of the bedroom temperature after night cooling was measured with the outdoor thermostat control because consideration of the operating principle of this control suggested that it would provide slower pick-up than conventional room thermostat control. It was noted that 7 hours elapsed before the temperature in the north bedroom reached 70°F and the temperature in the south bedroom did not approach a steady value of 68°F for at least 9 hours after closing the windows. The temperature of the water supplied to the baseboard convector did not change appreciably when the windows were opened or during the pick-up.

The results of the Bureau's investigation showed that the specimen baseboard convector system produced lower vertical temperature gradients in the test bungalow than any other system or device that had been tested heretofore. Whereas a temperature difference of 8°F was observed between the 2-inch and 60-inch levels for a gravity hot water heating system with conventional thin tube radiators and the boiler in the basement, a temperature difference of 3.5°F was observed between the same levels with the baseboard convector for an outside temperature of 20°F in both cases.

The baseboard heating system is well suited for application to basementless houses because it is installed above the floor level and because it provides better comfort than most other systems at the floor level.

*The space between 2 and 60 inches above the floor is the "living zone."

**Aetna Insurance Group,** *Hartford, Conn., used the above illustration in recent advertising to remind users and homeowners to, "Have your oil burner completely checked before the heating season starts." The advertisement appeared in color in Time, Newsweek, U. S. News and World Report, as well as July, August and September insertions in nineteen insurance trade papers.*

# Duct Shop Sells Fueloil

## Chicago's Metropolitan Petroleum Finds This Facility Effective

SELLING OILHEATING EQUIPMENT to build fueloil gallonage has been common practice in the industry for a number of years. Installing boilers and furnaces along with oilburners, and then getting a long time fueloil contract, is nothing new. A good many fueloil distributors have complete heating departments that install radiation, radiant heating and the like. A smaller number of oil men handle complete warm air installations, including duct work made in their own shops . . . but the number is growing and for good reason.

Having complete control of a warm air job has been effective in building fueloil volume for Ralph A. Dunker, head of Dunker Fuel Service and Metropolitan Petroleum Co. of Chicago. Dunker had some interesting viewpoints along this line for the staff member of FUELOIL & OIL HEAT who spent a few hours with him. F. B. (Ted) Caldwell, executive secretary of the Burning Oil Distributor's Assn., and A. F. O'Dell, Metropolitan's vice-president for fueloil sales, shared the discussion.

In addition to the general run of new oil accounts that come through oilheating sales, Dunker has taken quite a lot of builder work on higher priced developments. Last year there were 250 such jobs, oilheating units complete with duct work and guttering, and as the homes were sold he got 90% of the fueloil contracts. The cheapest builder homes that Dunker can handle run around $15,000. Below that they get too cheap for him. At the time of the visit he was doing a batch in the $19,000 range. The company only wants the kind of work where it can afford to do a good job and keep the builder and the home buyer satisfied because they're both important to that oil contract.

Why would a man like Dunker operate his own duct shop instead of subcontracting the work? It's not so much to save money, he will explain, for there is no great difference either way, but he does find real advantage in having complete control of the operation.

First, he has complete quality control, and he can work out the details of each job however he likes, without any arguments. Then he has complete control of the time element. He can switch men here and there to fit the builder's schedule, keeping things flexible enough to allow for the builder's unforeseen contingencies. When things don't go according to a time plan, subcontractors are inclined to get difficult, exclaiming that their costs are affected.

Some dealers might feel that a duct department would be hard to handle from the standpoint of keeping the men busy without too frequent layoffs. Having a shop takes care of this point fairly well. There is so much uniformity in most jobs for homes that a great share of the parts can be built up into stock, and the men can work inside, either on a specific contract or making stock parts, when there is no outside work to do. The limit here of course would be the amount of inventory that could be safely carried, but good management would tend to about balance the inside and outside work.

Outfitting a duct shop with equipment doesn't cost a lot—about $2,000 as a minimum to do good work, according to Dunker. To have a smooth running operation and to justify the cost of the floor space at Chicago rates, he believes 100 home jobs a year to be about the minimum that warrants a shop. However, in smaller cities and less costly locations quite a number of oilheating men have duct shops for smaller annual volume.

On builder work Dunker gets an average of about $35 an opening for his duct jobs . . . in other words around $350 to $375 for a typical home having seven hot and four cold registers. In addition he does the gutter work at an average of $125 per home. Whenever possible, he uses separate men on heating and gutter work, and on new and old homes. On the front cover of this issue is a picture taken in Dunker's shop, showing bins of standard parts that his men make between jobs. The workmen are Arthur Clutterham, shop foreman, and Elof Swanson.

The oilheating equipment sold by the company is either York or Mueller.

**Ralph A. Dunker** *and* **A. F. O'Dell** *of Metropolitan, left and right, with* **F. B. (Ted) Caldwell,** *mastermind of B.O.D.A.*

# Designed for Sales

## Institute Promotion Sells Oil Heat for All Dealers

by
W. O. Spiess

PERHAPS THE GREATEST war casualty in the oil heat industry was the habit of merchandising. The industry had it in 1941, but five years later it was missing, (though not missed), and even now only a ghost of the "throw-away-that-shovel" promotional era remains. Merchandising, by which term we mean the general practice of promoting the sale of automatic oil heating products, was a good, well-developed industry habit all during the 30's. It had to be, because dealers and manufacturers realized that demand had to be created for this relatively new product. Up until recently, the general, but not necessarily the individual feeling, seemed to be that the demand for oil heat equipment was as automatic as the product itself. We learned the hard way that this wasn't true, but the old, successful habit seems difficult to regain.

One way to gain an appreciation for constant promotion is to consider your own habits as a consumer. If you recently purchased a newer car, fur coat for your wife, modernized your kitchen, enjoyed an interesting vacation or made some other sizable investment, ask yourself if the final decision was made without help from the seller. The answer probably will be "no." Looking back you may even recall that the desirability of making that purchase seemed to persist at every turn. From one's personal experiences as a buyer, the conclusion is irresistible that sizable purchases of other than necessities are made in an atmosphere of constant persuasion, almost pressure. For sellers of the modern, better, easier way of life—oil heat—the lesson is plain: we must influence, too, constantly.

There are reasons other than post war conditions to account for the general failure to merchandise oil heat. For one, dealers must split their business personalities and assign part of it to the various functions demanding attention; engineering, management, labor relations, accounting, finance, merchandising, etc. While they may not put merchandising last, there doesn't seem to be enough time to give it sufficient attention. Moreover, when there is appreciation for merchandising, the problems of how to go about it and the cost involved present substantial obstacles, particularly for the average dealer.

OHI's Public Relations Committee, under the chairmanship of T. A. Crawford, has just made available to dealers a full scale advertising and merchandising program to sell oil heat and the particular line of products that a dealer handles. This program uses every effective means to tell the story of oil heat and why no home owner should be without it. Included in the campaign are mats for dealer advertising in newspapers, postcards, envelope stuffers, window displays, truck decal and copy of layout for outdoor painted signs. Here is a brief description of this material.

*Dealer Mats.* Available to dealers is a

The best proof we can offer!
00* YEARS
of dependable service
and 0000* satisfied users
OIL HEAT for all homes
Carefree · Economical · Clean
DEALER'S NAME
Address Phone
*HAVE NEWSPAPER SET CORRECT "YEAR" AND "NUMBER"
Let Us Provide
1950
Performance
To replace your worn out oil burner
Save Fuel! Save Money!
OIL HEAT
is Best!
Call or Come in Soon for Complete Information
DEALER'S NAME
Address Phone
CAREFREE · ECONOMICAL · CLEAN
OIL HEAT
is
CAREFREE!
ECONOMICAL · CLEAN
all you do is set it and forget it!
Please Call Us For Service · Advice · Estimates
DEALER'S NAME
Address Phone
Call or come in SOON for complete information
NO MORE DRUDGERY!
OIL HEAT
your home now!
• NO COAL TO SHOVEL
• NO ASHES TO HAUL
All you do is SET IT and FORGET IT!
DEALER'S NAME
Address Phone
Please call us for service · advice · estimates
OIL IS THE modern FUEL
in the skyways
on the highways
over the rails
and to HEAT YOUR HOME
CLEAN · COMFORTABLE · AUTOMATIC
Goodbye Ashes!
Hello To Comfort!
with OIL HEAT all you do is set it and forget it!
Please Call Us for Service · Advice · Estimates
Goodbye Ashes!
Hello To Comfort!
with OIL HEAT
All You Do is Set it and Forget it!
Please Call Us For Service · Advice · Estimates
DEALER'S NAME
Address Phone
CLEAN · AUTOMATIC · DEPENDABLE
JOIN THE MILLIONS
WHO ENJOY OIL HEAT
Automatic · Comfortable · Clean
Every day regardless of the weather you'll get the most with OIL HEAT
Call or come in soon for complete information
DEALER'S NAME
Address Phone
CLEAN · AUTOMATIC · DEPENDABLE
OIL HEAT
is
CAREFREE!
ECONOMICAL CLEAN AUTOMATIC
Call or come in SOON for complete information
NO MORE DRUDGERY!
OIL HEAT your home now!
• NO COAL TO SHOVEL
• NO ASHES TO HAUL
Carefree! Economical! Clean!
PLEASE CALL US FOR SERVICE · ADVICE · ESTIMATES

**Newspaper ads** *suggested for use over the dealer's own name, and (lower right) four post cards for direct mail with provision for the dealer's imprint.*

series of six hard-hitting professional ads ranging in size from 84 to 140 lines. Mats are so designed that a dealer may insert a cut of his own oil burner along with his firm name, address and phone number. These mats are 20¢ each—$1.20 for the set. A mat sheet of the six recommended items is available at OHI headquarters.

*Postcards.* Four different interest arousing oil heat messages are available on penny postcards. These are priced at 10¢ a set which includes postage. At the bottom of each card there is a generous amount of space for the dealer's own imprint. Samples are available at OHI headquarters.

*Envelope Stuffers.* Printed, two sides, on coated stock the same size as the government postcard are two envelope stuffers. Each stuffer carries a basic sales message for oil heat built around the concept of oil the "modern" fuel. At the bottom on one side is a place for the dealer's imprint. These stuffers are priced at 2¢ a set.

*Window Displays.* "Oil is the Modern Fuel"—"Oil Heat Your Home Now" — "Carefree" — "Economical" — "Clean" . . . "all you do is SET IT . . . FORGET IT" is the message carried by a six part window display. Various sections may be arranged in different ways to make any showroom or shop window an effective salesman. This set is priced at 75¢ each.

*Truck or Window Decal.* "Oil Heat Your Home Now! Carefree, Economical, Clean" is the copy on a 12 by 12 dual purpose decal. The background is an attractive yellow with a message partly in red and black, and the reverse white on black panel. The decals are priced at 75¢ each.

*Outdoor Advertising Copy.* Layout for painted bulletins or wall signs is available on request and without charge. These are not 24 sheet posters, they are designs for painted displays.

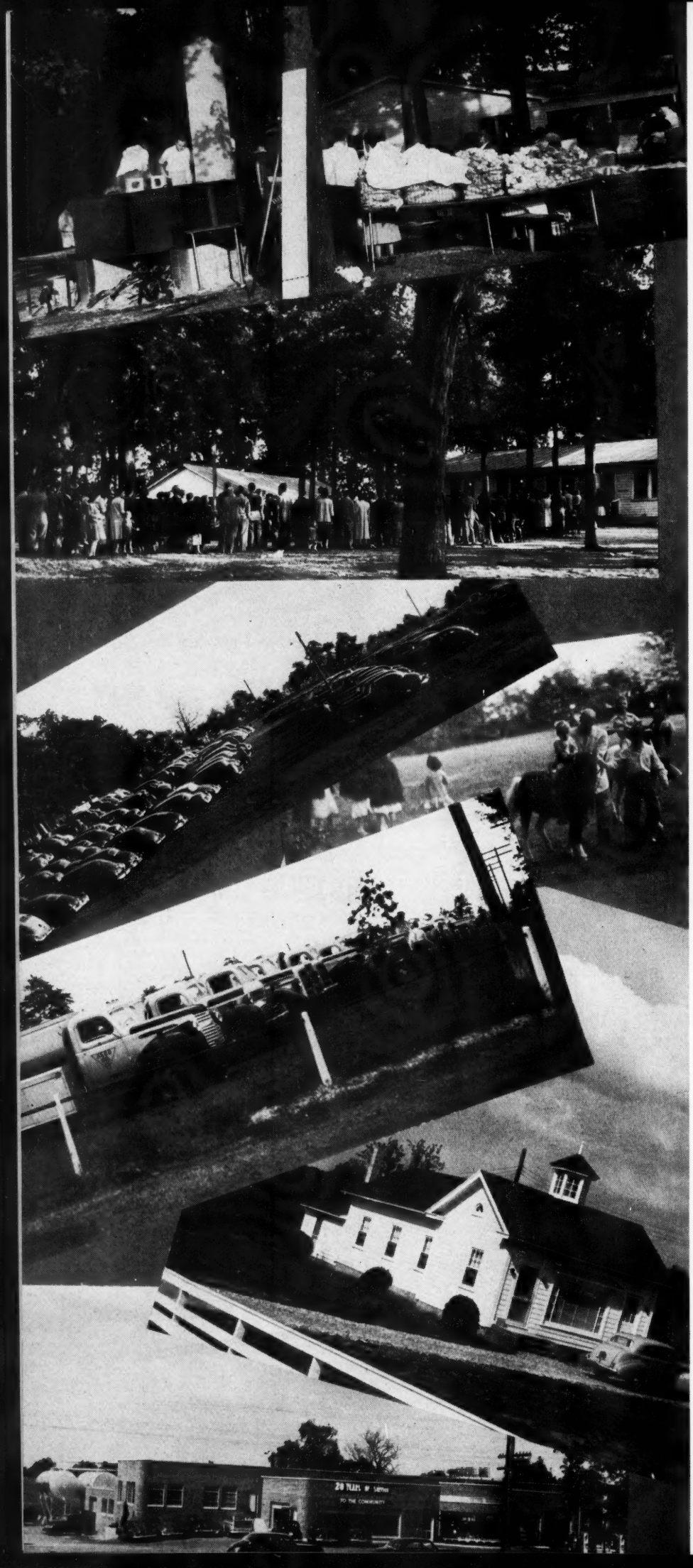
To tie in with the above material, available for competitive dealer effort is a series of six 600 line newspaper ads for use by OHI affiliated dealer associations. The ads which were designed to be repeated up to four times each, provide a packaged campaign of from 6 to 24 insertions for any OHI Chapter which recognizes the need for a cooperative, aggressive advertising effort.

The wisdom of Institute leaders in making promotional materials available to all dealers, rather than confining them to Institute members, will be apparent through the effect of broadly repeating the story they tell and the persuasions advanced. Other materials, which are confined to membership use, would help the non-member but such material is not out of his reach.

There has been no comparable promotional effort by the industry and the Institute since the war. However, judging by the first reports on acceptance in the field, this Institute effort will continue.

OIL HEAT
CAREFREE!
ECONOMICAL
CLEAN!
—all you do is . Set it-Forget it!
OIL HEAT IS BEST
Carefree · Economical · Clean
OIL HEAT YOUR HOME NOW!
OIL IS THE modern FUEL
58
FUEL OIL SUPPLIERS in St. LOUIS ARE
millions of gallons on hand for you no
OIL HEAT IS CAREFREE—ECONOMICAL—CLEAN
OIL IS NATURAL OIL IS PLENTIFUL
OIL HEAT YOUR HOME NOW!
OIL HEAT is care-free!
all you do is SET IT...
FORGET IT...
NO coal to shovel
NO ashes to haul
OIL HEAT your home now!
OIL HEAT IS...
CLEAN
CAREFREE · ECONOMICAL · AUTOMATIC
THE MOST CAREFREE...
OIL IS NATURAL OIL IS PLENTIFUL
SERVICE
OIL HEAT YOUR HOME NOW!
OIL IS THE modern FUEL
In the skyways
On the highways
Over the rails
TO HEAT YOUR HOME
OIL HEAT Proved and Approved by Millions
WRITE OR PHONE TODAY FOR ADVICE · SERVICE · ESTIMATES
OIL IS THE odern FUEL
In the skyways!
On the highways!
Over the rails!
TO HEAT YOUR HOME!
ou do is FORGET IT!
ECONOMICAL CLEAN
OIL IS NATURAL OIL IS PLENTIFUL
AT YOUR HOME NOW!
Proved and Approved by Millions
Phone Today for Advice · Service · Estimates

**Group Advertising** *in large space is encouraged by six complete ads made available in mat form. Insertions can be sponsored by local associations or by individual dealers.*



# The Camera Go

## A Birthday Party

AFTER TWENTY YEARS of satisfactory growth and general good business, M. D. DeTar, known as Dave, and president of Aero Oil Co., New Oxford, Penna., decided it was time to do something about it, so he called in friends from far and near on September 12 for a big day.

Actually the party was to celebrate other milestones too. In the summer the company had passed its one hundred millionth gallon mark in sales since the day it opened back in 1929, and moreover it was proud of a new headquarters building that cost a small fortune.

So the friends came . . . oil industry friends from various parts of the East, plus some two dozen major oil men; then 150 dealers or leased station operators that Dave supplies and a few hundred assorted customers. In all about 1,200 visitors shared the day and the games and the golf tournament and the food.

There was no lag. Dave had imported a Dutch band that tootled in a very lively fashion whenever it felt inspired. A barbership quartet, also imported, brought back the days that some of the folks could remember. Then there was a high school girls' band in colorful capes and replete with twirling majorettes. For men who didn't golf there were horse shoes, softball, and plain beer drinking, and ponies for the children.

The pictures show the clambake in preparation, then some of the crowd in the food lineup, the parking lot out at the grove and a string of fifteen Aero Oil trucks parked at the grove entrance.

The small white building was the first office of the company, while the modern brick one is the newest version. The company also has branches at Lancaster, York, Harrisburg, Gettysburg, Hanover, all in Penna., and one at Frederick, Md. They are all within a 45-mile radius of New Oxford.

With 14 million gallons of all products estimated as 1949 sales, about four million are fueloil and kerosene. Starting in 1946 the company has sold 248 General Automatic burners and it now has 1,200 fueloil customers. The oilheating department is in charge of Ruelle W. Wolfe.

# Goes To

## A Bulkplant Debut

DURING QUITE A NUMBER of years one of the industry's most successful and imaginative oilheating dealers has been Modern Heat & Fuel Co., Philadelphia. Its fueloil sales volume had grown to the point of operating 31 trucks but up until now they had always drawn their supplies from some other company's bulk plant, mostly from Gulf Oil.

With a new bulk plant just completed they still draw from Gulf, but now at the barge level, and they in turn will serve two other companies, Fred Haab, Inc., and Automatic Heat, Inc., on a throughput basis.

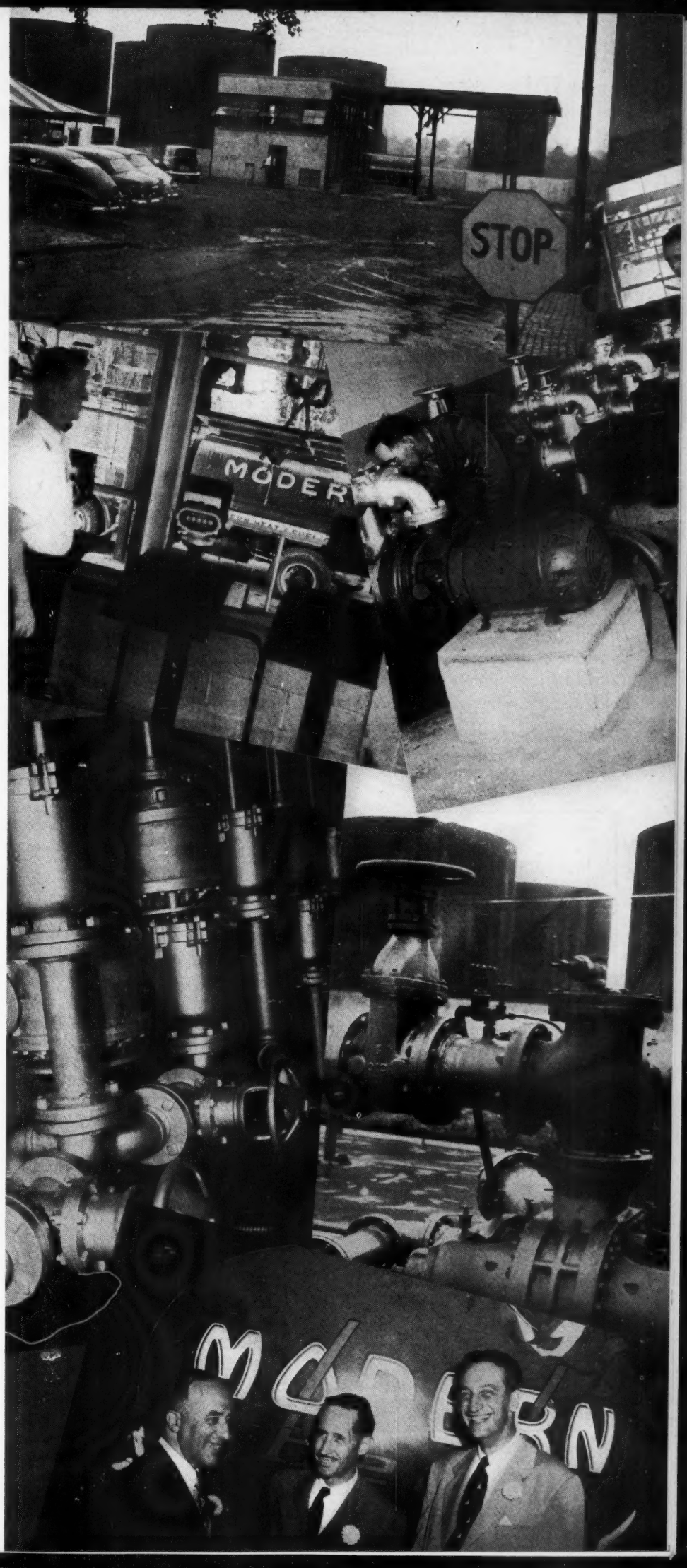
To show the new plant to industry friends the company's officers, Harry Marks, Robert Fleisher and George Clement arranged a reception at the premises on September 14.

The impression was strong throughout the gathering that here was indeed a modern layout with extraordinary flexibility and yet compact. There are five storage tanks, one 15,000 bbl., three of 10,000 bbl. and one of 2,500 bbl., a total capacity of 47,500 bbl. or about two million gallons.

The company's own volume plus its two throughput accounts will total 30 million gallons a year to start, or accomplish a fifteen-time turnover of capacity. Located as near the center of the city as possible for a terminal of its size, it is only a stone's throw from Convention Hall and not much farther from the University and the 30th St. Station. It is on the Schuylkill River and the B. & O. R. R.

The photographs show a general view of the plant, a shot through the windows of the control room to a loading rack with John J. Dowdell, chief dispatcher at the meters, and the meter room below stairs. Also the pump room, in which the standing gentleman is Herbert Baldwin, head of the company's fueloil department, a view from a loading barge in the river with tanks as a background, and a snapshot of the company's three officers at the stern of a truck—Marks, Clement and Fleisher, reading left to right.

The plant site is large enough for additional tanks and loading racks.



# Electrical Complications

fueloil & oil heat
Short Short Article
on Burner Service

HERE'S HOW a service expert recently ended two cases of electrical trouble, one involving an oilburner, the other a 15 hp motor that drives the water pump of a large air conditioning system.

Diag. 1 shows the wiring of the burner. Fuses started blowing and finally came the day when the fuse blew every time an attempt was made to start the burner. A greenhorn at servicing, sent first to answer the no-heat call, came back to the office and threw up his hands. How can you find the trouble, he asked, if you can't get the fool burner going?

The man who is past-expert in electrical complications then took the call.

First, coldbloodedly risking blowing a fuse, he unhooked the ground line of burner circuit in the fuse box and turned on the burner. The fuse blew. Now, he reasoned, the fuse-blowing is caused by a ground of a wire or something else in the live leg, not by an overload given for example by the motor or ignition transformer. The problem boiled down to locating the ground.

The expert unhooked the wiring at the places shown open in the diagram: (1) at *A* the live wire to the burner circuit was removed from the output side of the fuse; (2) at *B* the input wire to the control panel was removed from terminal #1; (3) the live lines to the motor and ignition transformer were removed from posts #3 and #4 of the panel; (4) uncoupling one connection at the burner broke the ground leg to the motor and ignition transformer.

A test socket fitted with a 10-watt bulb and connected to two long wires was used to locate the ground. One wire was connected to one of the prongs of a plug. This plug was placed in a light socket, plugged in the way that caused the bulb to light when the test tip in the diagram was touched to a water pipe to ground it. Using this arrangement, the bulb would light when the test tip was touched to a grounded wire.

Touching the test tip to wire *B* did not light the bulb, and proved circuit *A-B* was clear of a ground. Touching it to each of the four terminals of the control panel proved there was no ground in the panel; no light.

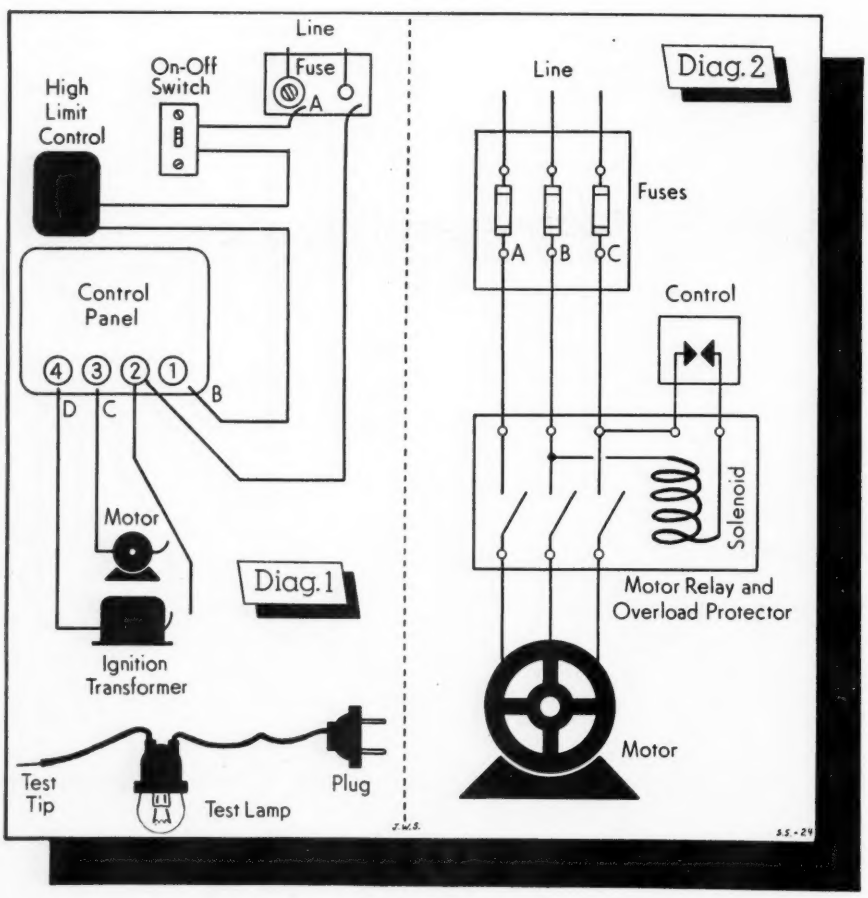
No light resulted from applying the test tip to wire *C* or the other motor wire, the one disconnected from the ground line to terminal #2 of the panel for the test. But the test lamp went on when the test tip was touched to wire *D*, indicating a ground in the ignition transformer. Equipped with a new transformer, the burner blew no more fuses.

Diag. 2 shows the wiring of the 15 hp polyphase water pump motor. An electrician who works mostly at house wiring telephoned the installer of the air conditioning plant and demanded a new motor in a hurry. The one on the job had gone bad though it was only a few months old, he declared. It had no tendency to turn over; all it would do was hum when its magnetic relay was pressed in by hand.

The three fuses are good, I tested them, said the electrician when the service expert arrived on the job to check things before ordering the motor replaced. To prove the fuses were good, the electrician applied a test lamp to points *A*, *B*, and *C*, the output terminals of the three fuses. With one side grounded, the test lamp lit for each of these three test points.

Then the expert pointed out the control shown in the diagram, and the switch in this control which was closed because the pump was not running. Next he pointed out that with this control switch closed the motor relay was open, whereas it should have been closed.

Buckling down to his job, the expert blocked the control switch in its open position, then tested points *A*, *B*, and *C* using a test lamp connected from each point to ground. But this time there was no light for point *C* and it was obvious fuse *C* was blown. During the electrician's test, point *C* had checked "live" only because current reached it from point *B* by travelling through the circuit made up of the closed switch of the control and the solenoid coil of the relay. Replacing fuse *C* ended the trouble.



# demand DETROIT CERTIFIED CONTROLS

## designed right
## built right
## proven right

When you install DETROIT Certified Controls you are providing your customers with the best in control equipment. DETROIT Certified Controls are designed and built to fit your customer's needs—giving real economy and reliability through years of trouble-free service. This is true of the entire DETROIT line, one of the most complete in the heating field. Add to this the fact DETROIT has been famous for quality for over 70 years and you have an unbeatable combination. But DETROIT goes even further, certifying every control in its line—backing you, your work and your reputation. For helpful information on ordering and installing DETROIT Certified Controls, on oil and gas heating units, send for the colorful DETROIT Catalogs today.

No. 300

**"Detroit" Ideal Fast Venting Systems**—For automatic low pressure one pipe steam systems. The No. 300 Adjustable Multiport Valve for radiators enables you to speed slow heating radiators—get heat quicker from all radiators simultaneously. No. 861 Hurivent for mains provides full ½" diameter port. Will vent 130 feet of 2" main in 30 seconds at only 4 ounces pressure. This system saves fuel, improves comfort and speeds up sluggish one pipe jobs. Write for Bulletin No. 166.

No. 861

# DETROIT
## LUBRICATOR COMPANY

**5900 TRUMBULL AVE., DETROIT 8, MICHIGAN**

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

CANADIAN REPRESENTATIVE: RAILWAY & ENGINEERING SPECIALTIES, LTD.—MONTREAL, TORONTO, WINNIPEG

"DETROIT"

DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

*Serving home and industry* AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON

# Installing Big Burners

## Horizontal Rotary Cup Burners Need Careful Planning

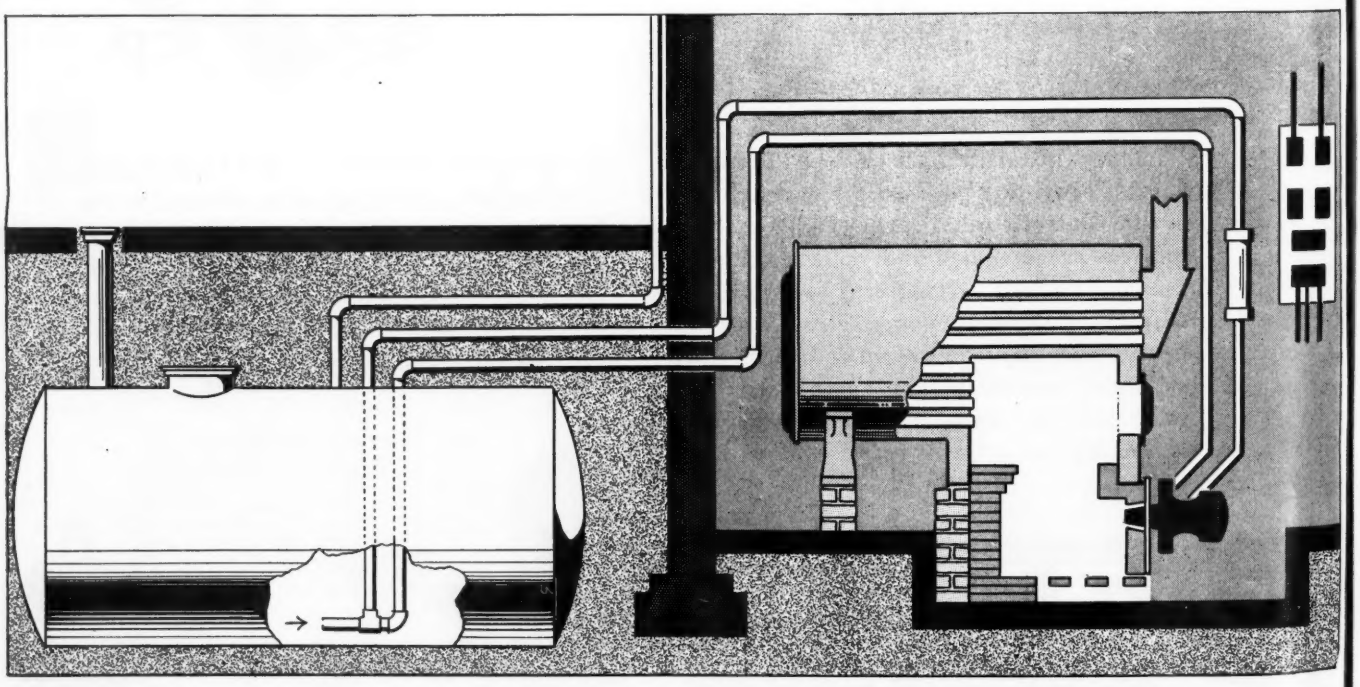
by
J. W. Schulz

HORIZONTAL ROTARY CUP burners give oil heating enthusiasts as big a thrill as can be had in a boiler room. They do things impossible for other types of burners. For example, a horizontal rotary cup burner can give fully automatic operation firing up to, say, 125 gph. It can start cautiously with a fire size à fraction of its maximum, wait for an OK signal from latest type controls that in themselves rate the admiration of electronics experts, then deliberately and slowly increase its oil and air rates to the maximum needed for a tough load. It can run all day giving a thousand different fire sizes automatically; when the load on the boiler increases or decreases, the fire size can gently shift to match it precisely. It uses the heaviest fueloils, oils that must be preheated to flow them through 2″ and 3″ pipe lines. If the oil in the lines is cold because the burner has been idle for days, the burner seems to use its brains before it starts up. First it turns on automatically controlled electric preheaters and waits precisely the correct number of minutes for these to do their work properly. Then the burner swings into action unattended but with the ease of an orchestra swinging into a waltz.

Although they are the most powerful automatic burners made and are swift at picking up the toughest boiler loads, horizontal rotary cup burners are as cautious and deliberate as any burners. They are notably tough and dependable. Their motors, oil pumps, ignition systems, and all other parts set examples for rugged, service-free design and construction.

To top off their extreme practicability, horizontal rotary cup burners split hairs in matters related to efficiency. Used in largest automatic boiler rooms where they must win their place by setting examples in economy, they can give combustion test readings and evaporation test results literally of the none-better kind.

Aside from the marvels of operation of the automatic burners of this type, the manually controlled models have a few unique accomplishments, particularly related to flexibility in gph range, and in minimum and maximum fire sizes. The flexibility shows where a fireman turns the gph rate down until a few tiny comets fly through the firebox keeping it hot, then turns up the gph rate to obtain 300% rating from the boiler. The minimum fire size for this type burner, suitable for a hotel range or a small bake oven, is down somewheres around 1/10 gph. The maximum fire size that can be given by a manually controlled burner of this type is tremendous; for example, one manufacturer sent out pictures of an atomizing cup bigger than a top hat, for firing (one burner by itself) up to 900 gph.



**Horizontal rotary cup burners** *provide in their performance the closest thing to magic in the field of oil heating. Features include: split-second action of electronic controls, low-fire starting, gph rate modulated to match the load, automatic operation at over 100 gph, semi-automatic operation at up to 900 gph, and fires as small as 1/10 gph from smallest burners. This schematic view of an installation shows the large, specially-arranged suction and return lines, the steam type oil preheater, the burner and firebox pit, the firebox carefully designed and constructed and provided with secondary air openings, and the panel crowded by several types of electric switches, relays, and controls.*

Marvels in a dozen ways though they be, horizontal rotary cup burners provide a prosaic, down-to-earth, practical answer to the problem of a burner dealer whose heart is set on providing the burners to heat the biggest buildings and fire the biggest power boilers in his locality. Where fully automatic operation using No. 6 oil is desired for a big hotel, public building, high school, hospital, or apartment house, often there's no other answer to the problem except to put in horizontal rotary cup burners.

Whether he is a specialist in big burners or has taken on a line of them only to get a few outstandingly large jobs which he can point to in efforts to sell his usual line of domestic burners, a burner dealer always has maximum incentive to take interest in his big jobs and make certain they give the tops in dependable, economical performance. Few dealers know that errors in planning and installing the big burners can cost a dealer much more than he can hope to profit through making a sale and an installation.

### Test Suction Lines

A wise dealer avoids like the plague any chances of suction line leaks on a job that uses heavy oils Nos. 5 and 6. Too often, hundreds of dollars must be spent uncovering lines, making air tests on them, and doing the pipe work over to make it air-tight as it should have been made to start out.

A wise dealer stays up nights planning his gph rates, firebox design and construction, and firebox material. Fireboxes of insufficient size can't carry maximum loads. Oversize boxes represent wasted money, besides giving poor combustion. Fireboxes of poor design or construction, or of inferior material or workmanship, go to pieces quickly. Even if he did not mind the dent in his reputation because a $1,500 firebox which he installed needed replacement within two or three years, the most hardboiled dealer would not like to replace the $1,500 firebox on a no-charge, guarantee basis during the first year the burner was used. Perennial headaches for conscientious dealers can grow from installation errors, which the dealers understand later should never have been made in the first place, which have to do with boiler setting design or firebox design,

## Estimating and Job-Planning Sheet

Date .....Planned by .....Checked by .....Final OK .....

Owner's Name .....Address .....

Description of Boilers and Related Equipment .....

.....

Boiler Steam Pressure .....Load Data .....

Fuel Consumption Data .....

Sizes of Breeching, Smokepipes, and Chimney Flue .....

Dimensions of Grates, Boiler Bases, etc. .....

Type and Size Oil Burners .....

Gph .....Description of Combustion Chambers .....

.....

Burner Control Details .....

.....

Description of Oil Preheaters .....

.....

Description (including sizes) of Fill Line, Vent Line, and Suction and Return Lines

.....

.....

Type Electric Current for Burners .....

Oil Storage Tank Size and Location and Installation Details .....

.....

Additional Data .....

.....

.....

Summary of Estimated Cost Items (Give complete details on sheets attached to this Estimating and Job-Planning Sheet

#1. Data on Burner Models .....
Total Cost of Burners on the Job ..... $———

#2. Major Accessories (Boiler Front Plates, Auxiliary Air Doors, Tank Gauge, Special Controls not Shipped with Burners, etc.) $———

#3. Oil Storage Tank Size .....gals.; Price on the Job ..... $———

#4. Piping Material, including Oil Preheaters and all Steam Valves, Specialties, etc. (Fill, Vent, Suction and Return Lines) ..... $———

#5. Refractory and Insulating Material for Combustion Chambers .. $———

#6. Electrical Material (Incl. Controls, Relays, Motor Starters, and Switches not in Items #1 and #2) ..... $———

#7. Miscellaneous Material ..... $———

#8. Labor Costs

(a) Piping .....$———  (b) Wiring .$———
(c) Fireboxes ....$———  (d) Finish ..$———
(e) Start & Test ..$———  (f) Service .$———
(g) Excavation and Tank Handling .....$———
(h) Miscellaneous .$———

Total Labor Costs $———

#9. Labor and Material costs of Extras Sold with Burners ..... $———

#10. Total Estimated Cost, Labor and All Material (Items #1 to #9) $———

and which make it necessary for the owner to spend hundreds of dollars each year on firebox repairs. Failure to put a deep enough pit under a boiler, or to set the burner out in front of the boiler to increase the length of the firebox, can put such a yearly tax on the owner's pocketbook.

A wise dealer worries to start out about problems related to draft control, heat control, and boiler waterline control.

Proper draft control is needed especially for the large chimneys of plants

MEMO
To General Manager From Sales Manager
Price I've set on burner set-up for
M-City Hospital is based on:
Item 1- Burners on job $2,180.
2- Major Accessories (detail #2) 225.
3- Tank on job 560.
4- Piping- all specialties & mat 800.
5- All electrical material 315.
6- Firebox & pit material 525.
7- Miscellany 130
8- Labor
9- Labor
Installation Manager says I'm low only $76129

fired by big horizontal rotary cup burners. Such a chimney may be inclined to develop .50" over-fire draft, where for example, .10" or .20" must be maintained to gain maximum fuel economy. The several types of automatic draft regulators which have been developed especially for commercial and industrial burners fulfill a real, fuel-saving need. A wise dealer tells the owner of a big building at the start of the burner planning, and not after thousands of gallons of oil have been wasted over an unhappy period of a year or two, that uncontrolled draft wastes oil and that a good draft regulator should be bought to go along with a good oilburner.

Where horizontal rotary cup burners are controlled manually, in a boiler room with firemen on hand 24 hours a day, over-fire and breeching draft gauges should be installed whether the draft is controlled by modern automatic regulation or manually.

Disregard for the problem of controlling the heat in a large building, coupled with installing automatic burners, can be particularly disastrous. Often the man firing the boilers with coal regulated the building temperature by firing hard or banking, whereas the automatic burners are started and stopped simply by a steam pressure control or similarly inadequate device. To obtain best results from big burners, a dealer must be a specialist in the modern methods of controlling heat in large buildings.

Automatic control of boiler waterline and providing proper, fully dependable low-water protection go hand in hand. The waterline problem also needs careful consideration where after automatic burners are installed a fireman will be needed no longer.

Beforehand planning of the details of the installation, coupled of course with care in carrying out the plans, steers a dealer clear of all the pitfalls in the field of big burners. Horizontal rotary cup burners differ from other burners in this way, according to the experiences of dozens of dealers handling the best makes of this type burner. No service problems or headaches come up where the burners are installed excellently. Solving all the installation problems successfully seems to arrive at proper operation. Where the competent service man has chronic trouble, in every instance a shortcoming in the installation engineering seems responsible.

The beforehand planning of a horizontal rotary cup burner installation has to start with the salesman. Before the salesman can start to sell, he must decide what to sell. The burners may be manually lighted and manually regulated with respect to gph and combustion-air rates, or they may be semi-automatic (manually lighted but automatic with respect to fire size regulation), or they may be fully automatic. If automatic features are to be used, details of these must be determined beforehand, as expensive or inexpensive arrangements may be used.

The salesman must decide also, of course, which grade oil is to be used on the particular installation. The burner model, the oil line sizes and arrangements, and the preheating equipment must match the grade oil to be used.

Proper gph rate for the burners must be decided before the burner models can be selected. To produce rated horsepower from power boilers, fire one gph for every three boiler horsepower. Fire a 150 hp boiler at 50 gph to produce its rated output. To play safe, however, select a burner size capable of giving a fire at least 25% larger than seems needed. For heating plants, translate the net or standing load to terms of Btu per hour (for example, multiply square feet of steam radiation by 240), and add a suitable piping and pick-up allowance of 20% to 50% to match the characteristics of the installation. This gives the gross load on the boiler. Divide the gross Btu load by 100,000, which is the available heat from a gallon of oil burned at 70% efficiency, to obtain the gph rate needed to carry the load.

At this point you can select the burner models, obtain cost data on them from the burner manufacturer's manuals or dealer price sheets, and fill in your first item of estimating the cost of the job. The accompanying form, "Estimating and Job-Planning Sheet," or a similar form made up by a burner dealer or provided by the burner manufacturer may be used.

The firebox size and construction depend on the gph rate and the details of the boiler. Don't plan on using for a large job, fired say harder than 30 gph, the type firebrick usually considered suitable for domestic burner installations. Aim to obtain brick good for about 2500° F., and check and double check to make certain the brick you plan to buy are 100% suitable for the big job.

### Sizing the Tank

At the start while he is getting together the figures needed to price the job, the salesman must decide on the capacity and location for the oil storage tank. One thumb rule for largest plants is to install a tank so large that a ten-day supply of oil is on hand at all times. Figure the daily oil consumption for days of maximum load, multiply this by ten, then add 20% because the tank should not be empty when the oil arrives.

The procedure in some smaller burner retail organizations is for the boss himself to do all the cost figuring, aided particularly in the labor figures by the installation and service manager. The boss or a salesman may then, once the selling price has been ascertained, close the contract.

In very large dealer organizations, a regular procedure often is followed. The

# 2 New Auto-Vents by Maid-O'-Mist, Inc.

## for Hot Water Heating Systems

### No. 67 AUTO-VENT (Float Operated) for continuous venting of Hot Water Heating Systems

When space for air valves is limited, the new No. 67 Auto-Vent is the answer. Its small overall size (3-3/16" x 1½" with ⅛" I.P. thread) allows its installation in trouble spots previously neglected or improperly vented. Built entirely of non-ferrous metals. For use on hot water systems up to 30 lbs. pressure. No air chamber is required. Send for catalog sheet No. 67C.

**List price $3.50**

◀ *Use the No. 67 on Hot Water:* Convector Radiators • Baseboard Radiation • Radiant Panels.

### No. 72 AUTO-VENT — the fastest venting valve (Expansion Type) on the market!

Due to the unique construction of the new No. 72 Auto-Vent, all expansion and contraction of the special composition disk is confined to 4 vent slots rather than around the entire seat of the valve. This plus its internal siphon tube makes it the fastest venting valve (expansion type) on the market for hot water heating. Send for catalog sheet No. 72C.

**List price $1.50**

*Use the No. 72 on Hot Water:* Convector Radiators • Baseboard Radiation • Free Standing Radiators.

**Maid-O'-Mist, Inc. have pioneered in the development of efficient devices for automatically venting air and gas from Hot Water heating systems. The famous No. 7 Auto-Vent has for years been accepted as one of the most successful inexpensive means of venting overhead mains, trapped pipe lines, radiation etc., and hot or cold liquid circulating systems.**

MAID-O'-MIST Inc.
HEATING SPECIALTIES

AUTOMATIC HUMIDIFIERS . . . . . AUTO-VENTS
WATER LINE CONTROLS . HEATING SPECIALTIES

**MAID-O'-MIST, Inc.**

3217 NORTH PULASKI ROAD . CHICAGO 41, ILL.

salesman first visits the plant to be oil-fired, having obtained the lead for himself or been given it by his sales manager. He brings as much pertinent data back to the office as he can obtain, and goes over this with the sales manager. He may go back to see the plant again, accompanied by the sales manager, or a sales engineer expert in planning and pricing jobs, or perhaps by the company's installation manager. At this point, all technical details having been settled and made clear to the salesman, he awaits the figuring of the price at which he should sell the job. Using a form similar to the accompanying "Estimating and Job-Planning Sheet," in some companies the sales manager himself, aided by someone in the company expert and practical in these things, figures the dealer-cost of the indicated items. It may be required by the general manager or owner of the company that the installation department, which later will have to try to live up to these figures if the job is sold, will check over and OK the dealer-cost items. The sales manager's idea of the dealer cost of making an installation often falls quite a few hundred dollars below what the installation department sets as its bullseye for the job. When he has ironed out any differences of opinion regarding the dealer-cost figures, and added suitable percentages for overhead, possible grief on the job, total sales costs, and profit, the general manager arrives at the price to be charged for the burner installation, and passes this on to the sales manager, who in turn gives it to the salesman.

### Don't Guess

Guessing at the prices of routine type domestic burner installations and adding price-list extras for special controls, etc., does not always get a domestic burner dealer into trouble. A dealer selling 200 or 300 burners a year may make a profit by selling his standard 275-gallon tank installation at, say, $375. He may skip pre-installation surveys figuring that the grief that comes of doing this amounts to less in a year than the cost of making the surveys. A tough job of putting burners into certain houses is offset by easy installation in other houses.

In the field of horizontal rotary cup burners, however, intensive job-planning is necessary. Not only do the dealer cost figures, arrived at to determine at which price to sell the installation, depend on job-planning beforehand, but the quality of the installation depends on it. When the job is being planned, the decision is made to arrange each detail in a certain way. Good management does not permit switching later to a cheaper or more costly method. Thus the details of the big installation, and its performance later, depend on how well the job is planned and engineered at the start, when the estimating and job-planning figures are being assembled.

## Oilheating Continues As Philadelphia Choice

IN ITS 1949 SURVEY of homes, the *Philadelphia Bulletin* finds that approximately 34% of all homes in the city of Philadelphia have oilheating, compared with 9% gas and 53% coal. Asked as to their choice of fuels . . . what they would prefer to use . . . 44% want oilheating, 35% gas and 19% coal. The suburban figures, as shown in the table, are even more favorable to oil.

The preference percentages over the past three years are interesting. Notice that in 1947 the preference for oil was 42.4% in the city; then in 1948 because of the oil supply scare it fell to 36.3%, but in 1949 it bounded back to 44.1%. Preference for gas, in percentage of number of families, has declined through the period. In 1947 gas was first choice of 41.5% of families; in 1948 it was down to 38.8% and in 1949 it fell again to 34.5%. Oilheating could do well with a vigorous promotional campaign over the next year or two.

## Manufacturers Census, 1947 Covers 151 Oilburner Firms

FIGURES ON 151 MANUFACTURERS of all types of oilburners are revealed in the Census of Manufacturers for 1947. These 151 manufacturers employed an average of 6,318 during the year with a payroll of $19,889,000.

Only one manufacturer had more than 500 people employed in 1947, and two had more than 250 employees. Thirty-five manufacturers had one to four employees, and 34 more employed between 10 and 19 people; 26 firms had five to nine employees; 25 had 20 to 49; and 14 each had 50 to 99 and 100 to 249 workers.

These manufacturers shipped 745,027 high pressure burners; 79,558 low pressure; 32,526 mechanical draft pot burners; 67,903 rotary and natural draft pot; and 48,930 commercial and industrial burners.

Burners shipped by manufacturers in 1947 had a value of $84,581,000. Other industries shipped burners valued at $47,147,000, making the total value of burners $131,728,000. Burner manufacturers also shipped $3,535,000 of warm air furnaces; $1,959,000 worth of steel boilers, and $15,178,000 worth of other heating products.

It is important to recall that the Census Bureau classifies manufacturers under their principal products. Burner manufacturers are those whose largest dollar volume is in oilburners. A manufacturer whose largest dollar volume might be in boiler-burner units or furnace-burner units would be listed under general heating equipment.

### How Homes Are Now Heated

| | PER CENT | | | | FAMILIES | | | |
|---|---|---|---|---|---|---|---|---|
| | *Suburban Area* | *Philadelphia City* | | | *Suburban Area* | *Philadelphia City* | | |
| | *1949* | *1949* | *1948* | *1947* | *1949* | *1949* | *1948* | *1947* |
| Coal | 49.3 | 52.9 | 57.0 | 65.8 | 122,015 | 268,193 | 288,826 | 333,446 |
| Oil | 42.7 | 33.9 | 32.1 | 21.0 | 105,680 | 171,866 | 162,785 | 106,340 |
| Gas | 5.5 | 8.6 | 5.6 | 5.3 | 13,612 | 43,600 | 28,591 | 26,938 |
| Coke | 2.2 | 4.6 | 5.4 | 7.8 | 5,445 | 23,321 | 27,282 | 39,347 |
| Central Steam | .5 | .3 | .3 | .5 | 1,237 | 1,521 | 1,409 | 2,523 |

### How Philadelphia Families Would Prefer to Have Their Homes Heated

| | PER CENT | | | | FAMILIES | | | |
|---|---|---|---|---|---|---|---|---|
| | *Suburban Area* | *Philadelphia City* | | | *Suburban Area* | *Philadelphia City* | | |
| | *1949* | *1949* | *1948* | *1947* | *1949* | *1949* | *1948* | *1947* |
| Oil | 57.6 | 44.1 | 36.3 | 42.4 | 142,557 | 223,578 | 184,228 | 215,202 |
| Gas | 20.7 | 34.5 | 38.8 | 41.5 | 51,231 | 174,908 | 196,812 | 210,359 |
| Coal | 20.1 | 19.4 | 22.4 | 14.4 | 49,746 | 98,354 | 113,658 | 73,146 |
| Coke | .8 | 1.5 | 2.0 | 1.6 | 1,980 | 7,605 | 10,369 | 8,071 |
| Central Steam | .4 | .1 | .1 | .3 | 990 | 507 | 503 | 1,311 |
| Wood | .1 | .. | .. | .. | 248 | .. | .. | .. |

# HERE'S QUICK TURN-OVER FOR YOU!

## SEE YOUR OIL BURNER SALES JUMP

## WHEN THE "INVADER" SILENT GLOW TAKES OVER

Those Who Know Choose SILENT GLOW OIL BURNERS

THE DEALER WHO KNOWS

EASIEST TO SELL

EASIEST TO SERVICE

EASIEST TO BUY

Dealer records from many sections of the country indicate that the popular-priced INVADER is doing an amazing job of building oil burner sales. Take advantage of this outstanding opportunity to give your customers a quality burner at a price they can afford to pay. Get the facts now!

CERTIFIED INSTALLATION

CERTIFIED

WHISPER QUIETNESS

BUILT TO COMMERCIAL STANDARD CS-75-42 SPECIFICATIONS
WESTINGHOUSE MOTOR, LONG-HOUR DUTY TYPE, WITH MANUAL RESET OVERLOAD PROTECTOR.
CHOICE OF M-H, PERFEX OR OTHER STANDARD CONTROLS.
WEBSTER FUEL UNIT, INTERNAL GEAR TYPE.
TORRINGTON SIROCCO TYPE FAN.
BURNS 100% CATALYTIC-CRACKED OIL EFFICIENTLY, CLEANLY, QUIETLY.

**2 Standard Capacities:** Offered in two standard capacities: Small, 1.00 to 1.65 G. P. H. and large, 2.00 to 3.00 G. P. H. A size to meet every normal home heating requirement.

**MONEY BACK GUARANTEE**

**YOUR MONEY BACK** if this isn't the greatest oil burner value you've ever seen!"

This guarantee is backed by the A-A1 rating and reputation of The Silent Glow Oil Burner Corp., a pioneer and leading manufacturer in the oil heating field, with a quarter century background of experience.

Ross Sherman
President

**WHY WAIT... PARTICIPATE!**

**To: THE SILENT GLOW OIL BURNER CORP.**
**850 Windsor St., Hartford 5, Conn.** • **1500 So. Western Ave., Chicago 8, Illinois**

Send us the complete story about "Invader" including prices and your money-back guarantee.

Name _____

Company _____

Street _____

City _____ State _____

11SL4

# Jet Burner for Tobacco Curing

## Developed Under License to American Machine & Foundry

by
Phillip Kaftol

*During the late summer several demonstrations of a new tobacco curer were conducted for public gatherings of farm leaders in North Carolina. Because this oilburning device attracted favorable comment from these farmers as well as from state department of agriculture men, American Machine and Foundry Co. was asked to write for readers of* FUELOIL & OIL HEAT *a description of the equipment. Phillip Kaftol is a company engineer who was active in the development of the product.*

BASICALLY THE AMF TOBACCO Curer is a refinement of a high pressure gun type oilburner. It has the following components:

A. OIL SYSTEM

1. Webster 1Q Single Stage Oil Pump connected as a two pipe system.

B. ELECTRICAL SYSTEM

1. 10,000 volt transformer (Primary 115 v.).
2. A specially designed spark plug.
3. A G.E. ¼ H.P. single phase motor @ 1725 rpm 115 v.

C. AIR SYSTEM

1. Torrington 729-419 centrifugal blower delivering 145 cubic feet per minute at 1.50 inches of static pressure resistance when running at 1725 RPM at 75° F. and 29.9 Hg.

D. CONTROL SYSTEM

1. Mercoid Visaflame safety control.
2. Mercoid $K_2$ primary control.
3. Low voltage thermostat (25 v.) of the liquid filled long capillary type.

If examined quickly it will be noticed that the components are the same type as in a standard gun burner. It is the size of the parts that varies. The operation is exactly the same as a gun burner. When there is a call for heat from the thermostat, the motor starts and turns the blower and fuel pump on at the same time. The motor has a double ended shaft—the blower attached to one end, the pump to the other. At the same time voltage is applied to the primary circuit of the 10,000 volt transformer, which sends a 10,000 volt potential from its secondary circuit to the spark plug, which starts a spark. When the pump reaches speed, it opens an outlet valve and oil is sent to the spray nozzle. Up to this point, the operation is exactly the same as a gun burner. At this point in the standard gun burner, air shoots through a draft tube at the end of which is located the nozzle and sparking electrode. A series of vanes gives the air a swirling motion to produce a mixing of oil and air. The spark ignites the oil and the flame is thrown into a refractory furnace. In the standard type, the refractory furnace is a prime factor in producing good or bad combustion. Also on most models all the air that goes through the draft tube is primary air necessary for support of combustion. The unit has been designed for #2 fuel oil (138,500 BTU) gal. For proper combustion 23.15 CFM/gal. air at 75° F. and 29.9 Hg is necessary. For 2.5 gallons 57.88 CFM are necessary. Actually the standard burner will throw 20% excess air in, or a total of 70 CFM.

**Lightweight** *AMF Jet Tobacco Curer weighs only 90 lbs., burns No. 2 fuel-oil automatically.*

The AMF Tobacco Curer uses 145 CFM for the same spray nozzle. The 57.88 CFM needed for combustion represents only 40% of this. It has a combustion chamber fitted at the end of the "draft tube" which diverts 40% of the total air flow, takes it into the combustion chamber, mixes it with the oil spray, and ignites the mixture with a spark plug. The remaining 60% of the air, or approximately 90 CFM, is by-passed around the combustion chamber and into the furnace where it is used for heat distribution throughout the system. The AMF Tobacco Curer has a continuous spark to keep firing the unit in the combustion chamber itself. The instrument used in testing the unit's combustion products is the Bacharach Smoke Meter developed by Shell. It has smoke grades ranging from good to bad of 0-10. The smoke samples from the AMF Tobacco Curer are always between 0 and 1. Readings on the Bacharach Fyrite $CO_2$ meter indicate $CO_2$ reading near the maximum attainable. These results have been consistent in all installations that have been built. The burner itself consists of a stamped sheet steel base—a sheet steel blower scroll, a sheet steel transition piece from the scroll to the combustion chamber itself, which is made of stainless steel 302 to prevent distortion while burning. Copper tubing is used on the burner with Parker airplane-type flared fittings for connections. The inlet and return openings of the pump are connected with flexible armor covered tubing 18 inches long. This is to allow the unit to be pulled out of the installation for servicing without disconnecting the fuel lines. The control system is a standard type used in gun burner tobacco curers.

A thermostat is used that has its sensitive element in the barn connected by means of a liquid filling capillary tube to the switching element located on the outside barn wall. This allows the farmer to set the temperature desired with-

# "I asked my customers how they found me... *here's what they told me*"

**1.** This customer's friend told him about me. The friend was an old customer. He knew the brand of oil I carried and recommended my services.

**2.** A lady telephoned for fuel oil. She said she had looked under that classification in the 'yellow pages' of her telephone directory. That's where she found my name.

**3.** This fellow wanted to get oil burner service. He checked the 'yellow pages' for a nearby service dealer. He found my address listed under "Oil Burners."

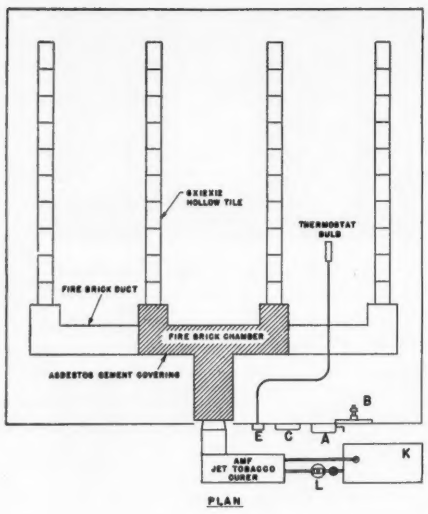
**4.** This man was hurrying by when my sign caught his eye. He came in and after a few questions, signed a service contract.

**5.** This couple had just bought a new home and needed oil. They looked in the 'yellow pages' and found that I offered the kind of service they were after.

**MORAL:** It pays to make sure your name is in the 'yellow pages' along with a description of the services you offer. 9 out of 10 shoppers use the 'yellow pages' as a buying guide.

BELL SYSTEM
AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES

*fueloil & oil heat*

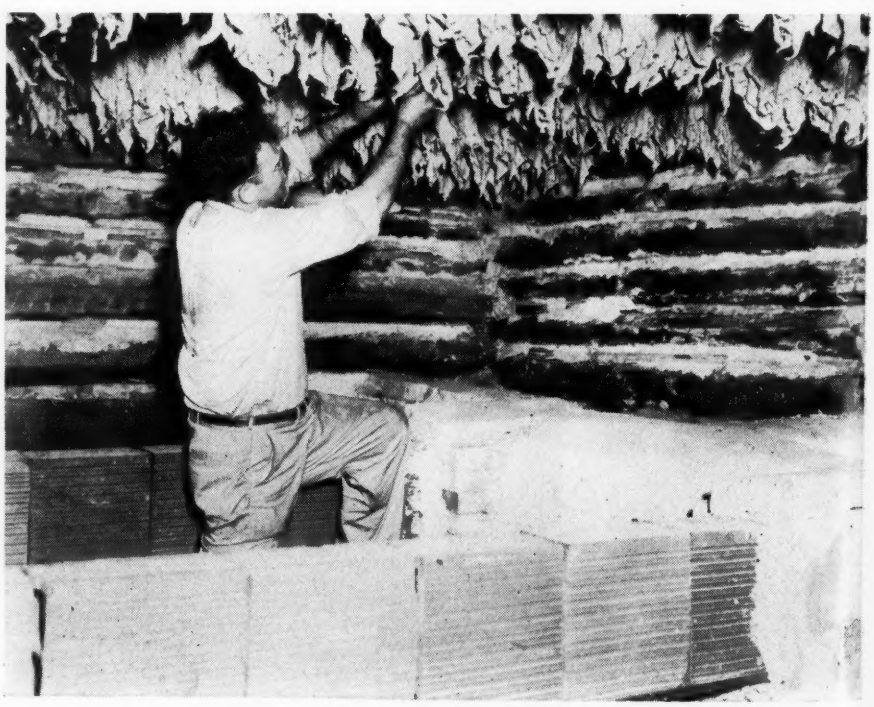



**Overhead schematic view** *of AMF Jet Tobacco Curer installation, showing: a. fuse and switch box; b. high temperature positive cut-off switch; c. primary control; e. thermostat; k. fueloil tank and l. fueloil lifter.*

out going into the barn. The thermostat has been chosen because it works well with the distribution system designed for the unit. Actually, the factor that decided in favor of this thermostat was the fact that its "differential" is very small. The ideal differential is zero, of course. The other important part of the control system is its safety device which shuts the unit off if the oil fails to ignite on starting, or if the flame fails for any reason during operation, using a Visaflame. The departure that AMF made in using the Visaflame control was the special mount it designed to hold the control inside the unit. This eliminates the trouble of putting a special setting in each furnace, the practice usually followed in the past. Actually, while the control system is a little more complicated than that, all the farmer has on the outside of the barn wall is the thermostat with its adjusting knob, the primary control with the reset button, and the starting switch. When he starts the cure, he closes the starting switch and sets his thermostat at the temperature he desires. That is all he does unless there is an ignition failure. Then, and only then, does he touch the reset button.

When the burner was completely designed the problem was to get these products of combustion into the barn in the best possible way to get uniform heat. One of the worst features of the metal flue system was that the heat would come out of the flues quickly and actuate the thermostat to stop the unit. The barn would cool rapidly and the unit would start quickly. The cure would consist of a great number of small on-and-off periods of a burner. If the heat curve was drawn it would consist of a gradually rising line with thus a great number of peaks showing. One way of improving the process was to eliminate these peaks and give an averaging or integrating effect to the heat curve. After much experimenting it was discovered that if instead of metal flues, red three-cell building tile 6″ x 12″ x 12″ put end to end were used to distribute the hot gases, the averaging effect would be obtained. Actually it converts the heat transfer from a quick radiation in metal flues to a slow radiation and conversion. (The hot products of combustion leak out between the joints of each tile.) The final distribution system is a combination of firebrick furnace and four building-tile ducts stretched across the bottom of the barn. The burner is located on the outside of the barn with the draft tube going through the barn wall and into the opening of the furnace. The furnace is in a Tee shape. The draft tube fitting into one leg of the Tee and the four tile ducts coming out of the other leg of the Tee. The ducts are each made up of ten to twelve building tiles fitted vertically into a track. It is by means of these tracks that flexibility is obtained in heat distribution. By varying the size of the openings between tiles more or less heat will get out at desired points. Since there are forty of these joints there are forty points of adjustment. In addition, raising or lowering the angles of the tracks decreases or increases the resistance to flow of the hot gases. It is in this flexibility the farmer has a range of adjustment for individual barn characteristics.

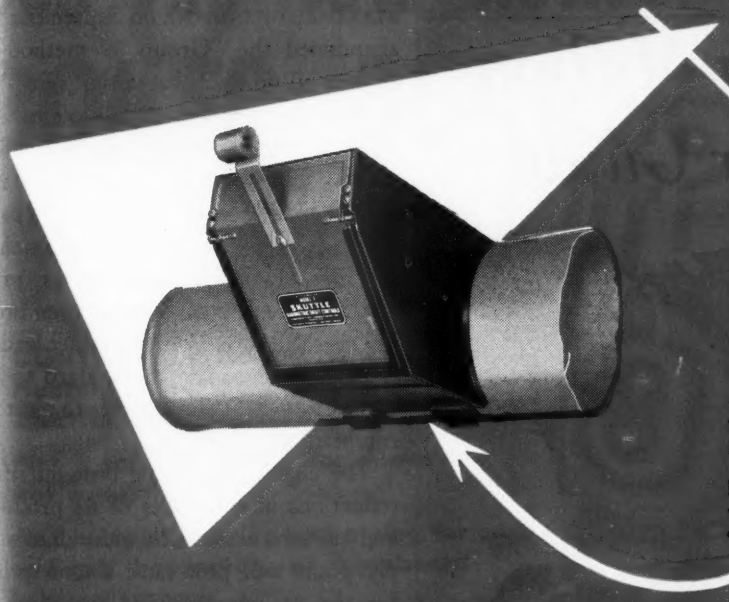
The furnace aside from being a Tee is much simpler than the average refractory furnace. This is possible because it only has to support the combustion. The simplest unit that could be designed was one that used only the Standard brick sizes. The material used is standard firebrick 9″ straights, insulating firebrick 9″ straights, high temperature refractory cement and insulating asbestos cement. The furnace is constructed of firebrick with no special joints. The width of the furnace is 7″, narrow enough for firebricks to cover it. No special joints are



**A series of tile ducts,** *heat distribution system devised by the Tobacco Experiment Station, Oxford, N. C., to afford uniform distribution of hot air generated by the AMF system.*

NEW—SCIENTIFICALLY DESIGNED

# Skuttle "WINDMASTER" BAROMETRIC DRAFT CONTROL!



- BETTER CONTROL
- EASIER INSTALLATION
- MORE PROFIT

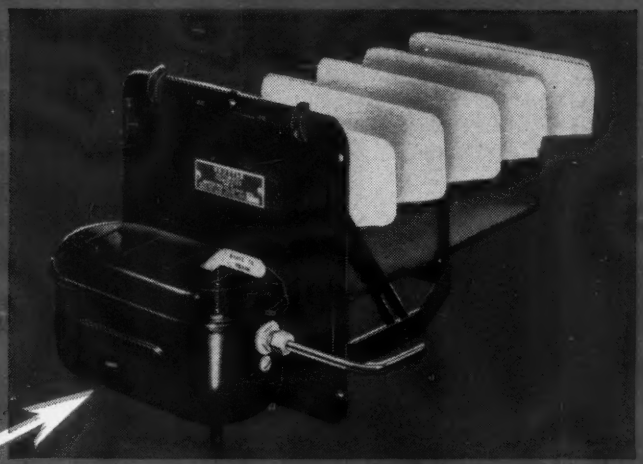
Square housing and patented angle mounted vane provides more uniform opening with larger effective area. Tested characteristics show a flat curve, assuring even, effective control—efficient operation at all draft values. See the test chart—it shows definite superiority.

Exceptional simplicity of design and sturdy construction enable you to offer your customer higher quality at lower cost and better profit.

Installation is exceptionally easy—ask your jobber. Available in 6", 7", 8" and 9" sizes.

**AIR CONDITIONING MEANS HUMIDIFIED AIR FOR MORE EFFECTIVE HEATING—SELL SKUTTLE SERIES 600 HUMIDIFIER**

Comfort—effective heating—demands good humidification. Without proper humidity, a home feels chilly unless overheated at high fuel cost. Throats get dry and respiratory diseases increase. A humidifier is as necessary as a filter in forced warm air heating. Skuttle Series 600 Humidifier provides better humidification. Self-flushing—self-cleaning—has the patented Vapolas plates that absorb 70% more water. The patented valve has an industry-wide reputation for lasting. Made of copper and brass—it's a quality, trouble-free item. Your jobber stocks Skuttle Humidifiers and Draft Controls.



Skuttle

THE SKUTTLE MANUFACTURING COMPANY · 4099 BEAUFAIT AVENUE · DETROIT 7, MICHIGAN

necessary, no trained masons are necessary to construct it. The only special feature is the fact that the portion of the furnace surrounding the flame is made of insulating brick. This is a soft magnesia brick that becomes incandescent in a short time and aids combustion. The central and top portions of the furnace are covered with insulating asbestos cement. At no point in the entire installation does the temperature exceed 400° F. eliminating all danger of fire.

The AMF Tobacco Curer has radically changed flue curing of bright tobacco in the following ways.

I—It throws smokeless products of combustion into the room, changing flue curing to a direct fired process.

II—The distribution system used changes the heat curve from a peaked (o) to an integrated type.

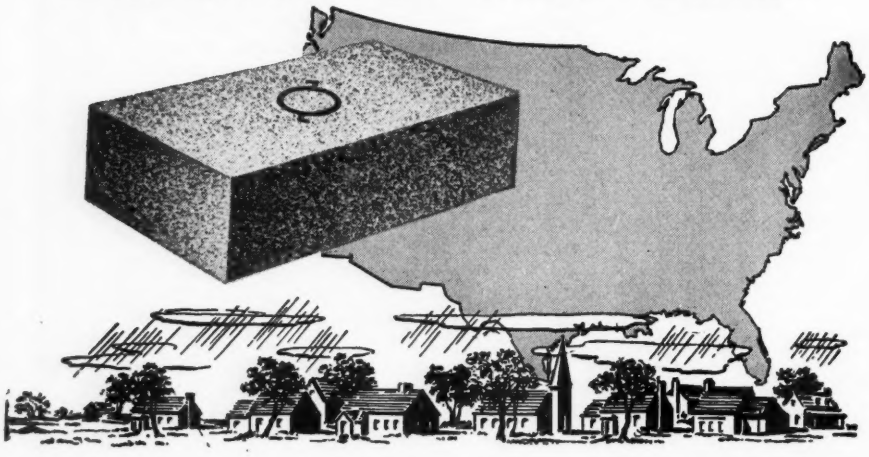
III—It provides the safest cure yet devised.

IV—It provides a flexible system of distribution.

V—It provides a drive of air up through the barn that has never been there before. The average 16' x 16' barn has an air volume of 8,000 cubic feet. Every hour of "on" time of the unit will displace a complete barn volume of air with fresh outside air.

VI—The excess distribution air 90 cm provides a better means of distributing the heat throughout the barn.


# *Let "A Quarter of a Million Families" Be Your Guide*

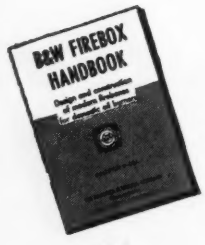


**Yes, more than a quarter million families are getting oil heating comfort at a much lower cost because wide-awake and alert dealers have provided them with B&W Fireboxes.**

**This figure carries a vital sales message for you. It shows that dealers and customers all over the country recognize the advantages of B&W Insulating Firebrick. It proves that they are "sold" on the Fireboxes that —**

1. **Save fuel, due to more efficient insulation.**
2. **Minimize odor, soot and smoke.**
3. **Assure smoother, quieter burning.**
4. **Respond quickly to thermostat by reaching temperature quickly from a cold start.**

**Follow this lead to increased sales and profits—by showing your customers the benefits of B&W Fireboxes.**




*Send Today*
*for the*
*B&W FIREBOX HANDBOOK*
*a sure guide to customer satisfaction and more sales.*

R-298

B&W REFRACTORIES PRODUCTS
B&W 60 FIREBRICK • B&W JUNIOR FIREBRICK
B&W 60 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

OTHER B&W PRODUCTS
Stationary & Marine Boilers and Component Equipment
Chemical Recovery Units... Seamless & Welded Tubes... Pulverizers
Fuel Burning Equipment... Pressure Vessels... Alloy Castings

BABCOCK & WILCOX
THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.


## Indiana Standard Adopts Competitive Pricing

STANDARD OF INDIANA on September 12, abandoned the "Group 3" method of pricing all products based on f.o.b. Tulsa, and posted prices at bulk plants and other supply points based "on local competitive factors." The change is seen not only as avoiding the claim the company is using a basing-point system of pricing, but also as abandonment of the price "umbrella" the company has been holding over the market as the market leader. The new policy allows Standard to act more quickly to adjust prices to meet all competition.

The change in pricing brought small reductions in the prices of its products and no advances. Each individual supply point will post tank wagon prices for the various products according to local market conditions.

Though it is not stated in the company's announcement of the pricing change, it is hoped that pricing based on "local economic and competitive factors" will reflect the price competition of other fuels as well as the competition of other suppliers of heating oils in each market. In the past prices based on Tulsa have not recognized the realities of outside competition, with the result that in some markets heating oils have been out of line with other available fuels. In other areas the Group 3 formula has been cracked in the past to bring fueloil prices more nearly in line with competition.

The Group 3 formula has been abandoned, the company says, "to adopt the policy of pricing the Company's products at individual supply points, with respect to both tank wagon and tank car sales on the basis of local competitive factors. This policy will be pursued wherever the Company markets its products."

# Cash in on new SMALL HOME DEVELOPMENTS!

## Sell The New Electrol BOILER BURNER UNIT!

- **CONSISTS OF an Electrol Water Heater, a long-time success in the Electrol line . . .**
- **Plus a tankless heater for domestic hot water . . .**
- **And complete wiring and piping for radiant, convector, or baseboard heating systems.**

**SPECIAL FEATURE—*A movable smoke-pipe outlet which can be rotated in a complete circle to accommodate right or left hand installations.***

For 22 years, Electrol units have been standard installations in fine homes and industries. We are proud to introduce the boiler-burner, which extends our line to the small home field, making it one of the most complete lines offered by any burner manufacturer.

SINCE 1918

**ELECTROL**

**BURNER MANUFACTURING CO., INC.**

Rutherford New Jersey

FAMOUS BALL FLAME EFFICIENCY

***Manufacturers of:***

• "Ball Flame" Conversion Burners • Domestic Water Heaters • Boiler-Burner Units • Electrolaire Warm Air Conditioners • Burners for Homes and Industries.

***Write today . . . Phone today . . . for information***

# Unusual Steam Heating

THIS PARTICULAR burner man knows installation and service work from A to Z, yet after half a dozen trips to tune a replacement burner he had just installed, he was on the job again last Christmas day from early morning until evening. He had applied only knowledge of burners, nozzles, controls, etc. He had not used what this job needed, which was know-how about the operation of odd types of steam heating. When steam and boiler water spurted all over the basement after the lightly-fired boiler had run steadily for five hours (because the gph rate was very low), he should not have cut the firing rate still more, or told an electrician to move the room thermostat. He should have gained knowledge of the heating system specialties responsible for the rumpus. Eventually he did this.

Many service men receive calls because of the odd behavior of new and old steam systems of unusual design. The old systems may bear the names of Adsco, Broomell, or O. E. Vapor Heating System. Many have open, basement-vented condensate receivers. Some have air vents piped to chimney flues. The new systems may include latest specialties, but often have the same tricks and idiosyncrasies as the old systems.

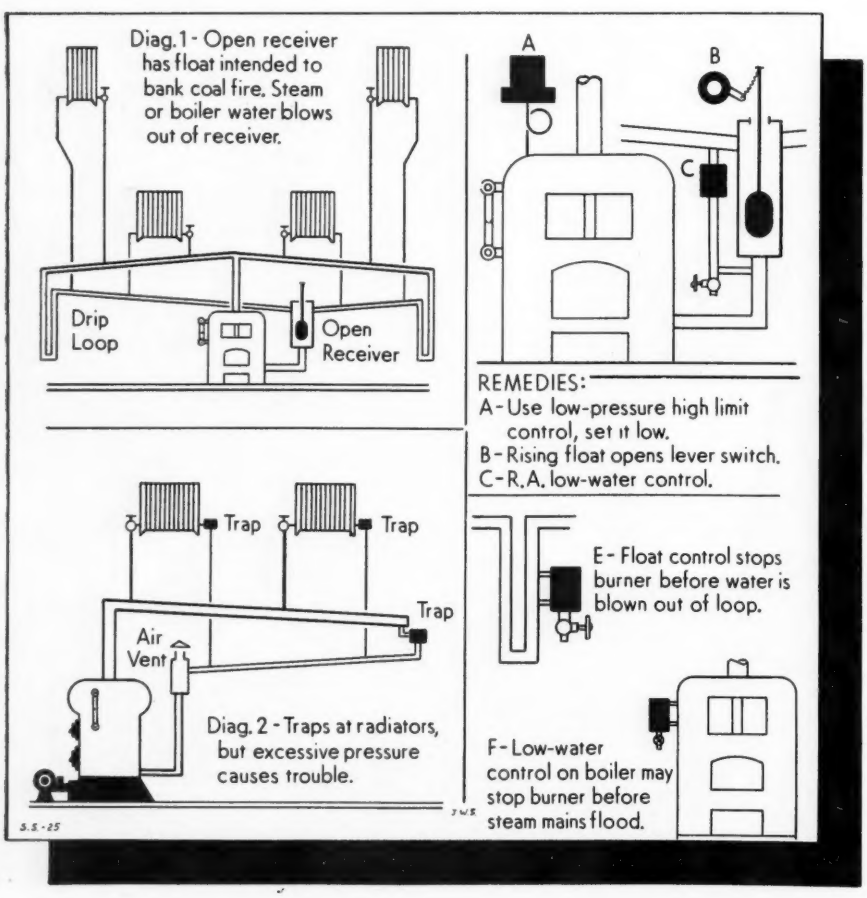
Take for instance an old system like the one in Diag. 1. Special radiator feed valves meter the steam to the radiators so that live steam at nearly boiler pressure does not fill the dry returns. Either a check valve or water seal in the return ell of each radiator keeps steam from flowing into the return connection of the radiator when its supply valve is turned off. The radiators have no vent valves. Air is discharged from them, when the boiler starts steaming, through the dry returns and open receiver.

The open receiver has a big float which, with hand-fired coal, rises and banks the fire by operating draft dampers when the water level in the receiver rises because the boiler has developed all the steam pressure it should raise.

If you oil-fire and control this type system in the usual manner and cause the boiler to develop a few pounds of steam pressure, steam and boiling water will pour out of the open receiver.

Diag. 2, similar to many lately-installed steam systems, does have modern thermostatic traps at the radiators and ends of the steam mains. Yet developing a few pounds of steam pressure can cause trouble. Boiler pressure raises water in the vertical pipe beneath the air vent, tending to drive it up out of the vent. If then the vent does not close, water jets out of it. If it closes, it can not vent additional air coming from radiators not yet fully vented.

To remedy water and steam spilling difficulties in such odd types of steam systems, first try installing a boiler pressure control that can be set to stop the burner at only two to four ounces of gauge pressure. Obtain a special vapor system control which is many times more sensitive than the steam pressure controls ordinarily used.


Diag. 1 - Open receiver has float intended to bank coal fire. Steam or boiler water blows out of receiver.
Drip Loop
Open Receiver
A
B
C
REMEDIES:
A - Use low-pressure high limit control, set it low.
B - Rising float opens lever switch.
C - R.A. low-water control.
Trap
Trap
Trap
Air Vent
Diag. 2 - Traps at radiators, but excessive pressure causes trouble.
E - Float control stops burner before water is blown out of loop.
F - Low-water control on boiler may stop burner before steam mains flood.

## fueloil & oil heat Short Short Article on Burner Service

Finding a big float in the open receiver of an old system, you can use the float to open a lever-switch and stop the burner when the water rises in the receiver. Or far better, use a reverse-acting low-water control on the side of the open receiver to obtain the same effect.

Where necessary in one of these odd systems, use a low-water control arrangement to stop the burner before the water is blown out of an important loop or water seal device. If several loops are used, raise steam pressure slowly to find out through which one the steam blows first, and locate the low-water control next to that one to keep it from blowing through.

By accident, sometimes a regular low-water control on a boiler prevents flooding of the steam mains and spurting of water from the boiler room air vent. The control stops the burner because boiler water is backing up into the return lines, or condensate is failing to return to the boiler. Used in this way, however, the regular control does not give best possible operation.

## FAMOUS "X" PRODUCTS FOR HEATING SYSTEM SERVICE!

"X" Products have been landing the big profits in Heating System Service for 30 years. "X" BOILER LIQUID—the LEADER—is the Industry's outstanding and accepted stop-leak for repairing leaky boilers. "X" flows to the leak with the circulation of the water and actually takes up the leak instantly from the OUTSIDE! Not just a plug or temporary seal, but a sound, rugged repair that puts the boiler back into steady, lasting service. In pipes and fittings "X" also seals sand holes, poor threads, split nipples as well as cracked castings. "X" is the famous colloid that positively contains no harmful solids to interfere with circulation . . . It's quick, it's safe, it's CERTAIN! Have "X" BOILER LIQUID and other "X" Products ready for your service calls this winter.

WRITE TODAY!

**"X" FLUSH & RUSTOFF**

**The combination package. FLUSH to clean the boiler—RUSTOFF to keep it clean.**

**"X" PIPECUT OIL**

**A special blend for work on all types of fittings. Keeps parts cool and covered.**

**"X" PIPEJOIN**

**Guaranteed leakproof for cold and hot water lines. The ideal filler and lubricant.**

**"X" LABORATORIES, INC., 25 WEST 45th ST., NEW YORK 19, N. Y.**

## API Book Of Statistics On Production, Demand, Prices

SALIENT STATISTICS of the oil industry through the aftermaths of the world's two greatest wars and the interim period embracing prosperity and depression alike are contained in a useful compendium published by the Oil Industry Information Committee.

Just off the press, "Petroleum Industry Record—1918-1948," is profusely illustrated with graphs and charts. Prepared by the American Petroleum Institute for the O.I.I.C., it is a valuable publication not only for the oil man but also for the teacher and the student, the researcher and any other person in need of a handy reference book on the major statistics of oil.

The tables and graphs portray the progressive development of the oil industry through the past three decades of history, and the expanding use of petroleum as a source of energy for light, heat, power, transportation and mechanization.

The tables and charts, on a year-by-year basis, cover such subjects as crude oil production and producing wells, drilling activity, proved reserves and allied cumulative figures, refining capacity and runs to stills, average yields per barrel, specialized yields, domestic demand and exports of motor fuels, kerosene and fuel oils, wholesale price indices and world crude oil production.

Copies of the compendium may be obtained from J. A. McNally, American Petroleum Institute, 50 West 50th Street, New York 20, New York. Single copies are priced at 50 cents each. Bulk orders provide the following discounts: 1 to 50 copies, 50 cents each; 51 to 100 copies, 35 cents each; 101 copies and up, 25 cents each.

◈

## Instructor Needed For Oilburner School

THE WISCONSIN OIL HEAT ASSN., in cooperation with the Milwaukee Vocational School, has developed a combination technical and laboratory course for oilburner service men which it hopes to start within the next few weeks.

Thus far a suitable instructor has not been located. The position requires a full time competent man, 40 weeks a year, offers permanency and a substantial salary. If interested, write Harold Mottram, executive secretary, Wisconsin Oil Heat Assn., 622 North Water St., Milwaukee 2, Wisconsin.

◈

## Shale Oil Produced At Price Of Crude

SHALE OIL NOW is being produced at the Bureau of Mines experimental plant at Rifle, Colo., at a cost of $2.25 to $2.50 a barrel, according to an Associated Press dispatch quoting Boyd Guthrie, supervising engineer. Crude prices now are around $2.50 a barrel.

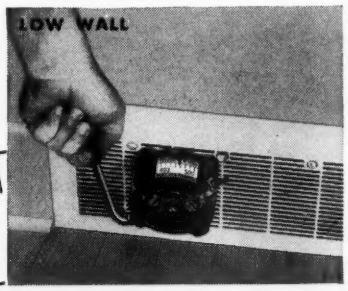
The experiment station is working on a marblestone shale deposit covering 1,000 square miles. This single mass is estimated to contain seven times as much oil as has ever yet been produced in the United States, and 22 times as much oil as now is in sight in proven reserves.

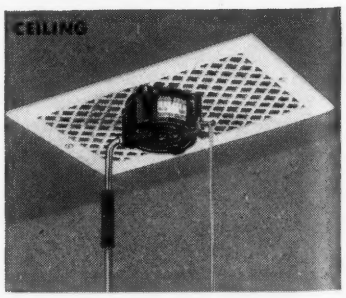
Present work is being carried on by the Bureau of Mines with no known commercial plants planned.


FLORITE Direct-Reading AIR VELOCITY METER

REPRODUCTION OF SECTION OF SCALE IN INSTRUMENT
Actual size, and as it would appear if straightened out

RANGE—0-1000 FT./MIN.
20 FT./MIN. SCALE DIVISIONS



**8" SCALE—Widest Scale of Any Mechanical Air Velocity Meter Ever Designed!**

The FloRite is an unsurpassed sales and service aid in heating, ventilating and air conditioning work. On installation and service work it is used to determine velocity and direction of air flow from registers and grilles for the purpose of checking rate of air delivery, balancing the system and adjusting deflecting vanes and louvers of registers so as to obtain "draft free" air distribution. These tests cut installation and service time, prevent expensive call-backs, and promote customer goodwill. The FloRite is equally helpful for selling new equipment or modernization. It can be used in many ways to convincingly demonstrate discomforts and inefficiencies of a worn-out or inadequate system.

The FloRite is entirely self-contained. It has no hose or probe, and gives all readings required for heating, ventilating and air conditioning work. The detachable handle facilitates use of the FloRite at low wall or high side wall registers. By screwing a 1/8" pipe into the handle the FloRite can be conveniently held against ceiling grille.

The FloRite is equipped with a unique scale lock which makes it possible to retain the reading until the lock is released. For ceiling grille readings, this lock is easily manipulated by means of a piece of string. This feature makes the FloRite exceptionally adaptable for indicating air velocity in hard-to-reach or dimly lit locations.

**COMPLETE, In leather case . . . $32.00**
LIST F.O.B. PGH.

*Ask your jobber for the FloRite or write for Leaflet 760.*

**BACHARACH INDUSTRIAL INSTRUMENT CO. — 7000 Bennett Street · Pittsburgh 8, Pa.**

**FUEL OIL INDUSTRY** reports that outstanding functional advantages of the White 3000 result in more gallons delivered per day . . . lower delivery cost per gallon.

# • New fuel oil truck EFFICIENCY . . . ECONOMY

"It's a *dream* of a truck . . . every way you look at it!"

That's the report . . . everywhere! And it's easy to see why the exciting, new White 3000 is the talk of the industry . . . from coast to coast!

**OPERATORS LIKE IT** because the functional design pays off in dollars and cents. Saves time "getting there", loading and unloading. Cuts maintenance time and cost in half. Adds to payload on every trip through new weight distribution principle that shifts extra chassis weight to heavier-capacity front axle.

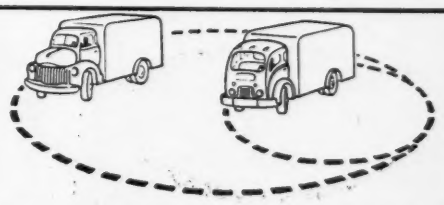
**DRIVERS LIKE IT** because it's the best-riding . . . best handling . . . best maneuvering truck on the road. Roomy cab has many driver energy-saving advantages.

**MECHANICS LIKE IT** because for the first time the front end of a truck is completely accessible in less than half a minute . . . at the turn of a key. Power-lift cab saves time, improves workmanship.

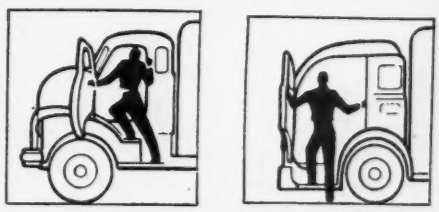
**TRAFFIC ENGINEERS LIKE IT** because of its new safety advantages . . . improved visibility . . . maneuvering features and famous Super Power engine performance.

**CUSTOMERS LIKE IT** because it's the best-dressed salesman-on-wheels you can have—a stylish design that always looks new because of its smart, functional design.

It's the same story, everywhere you go! Your local White Representative will be glad to show you how the White 3000 time- and cost-saving advantages can be applied to your business.



**SHORTER TURNING RADIUS SAVES MANEUVERING TIME**



**BETTER CAB ACCESSIBILITY SAVES DRIVER TIME**

**THE WHITE MOTOR COMPANY**

*Cleveland 1, Ohio, U. S. A.*

THE WHITE MOTOR COMPANY OF CANADA LIMITED • *FACTORY AT MONTREAL*

*Tips its cab to service*

**FOR 50 YEARS THE GREATEST NAME IN TRUCKS**

## Shell Merges Units, Changes Corporate Name

AS THE FINAL STEP in a long-range plan of corporate simplification Shell Union Oil Corporation, at a stockholders meeting held on September 22, voted to acquire all of the assets of its wholly-owned subsidiary, Shell Oil Company, Incorporated, and change its name to Shell Oil Company.

Following the stockholders meeting, the Board of Directors voted their approval of the plan, to take effect on September 30. The consolidation provides for the liquidation of Shell Oil Company Incorporated and the assumption of its coast-to-coast operations by the Shell Oil Company.

At one time the Shell Union holding company had separate operating companies in the Far West, Middle West and East Coast. In recent years these operating companies were merged into Shell Oil Company, Incorporated.

The wholly-owned Shell Pipe Line Corporation and Shell Chemical Corporation are not involved in the corporate consolidation under consideration.

Also at the Board meeting, H. S. M. Burns was elected a director and president of the new company and Alexander Fraser, former president, was elected to the executive committee. George Legh-Jones will continue as chairman of the Board of Directors. All vice presidents of the subsidiary company were elected to similar positions in the consolidated company. P. E. Lakin, vice president, also was elected a director and will continue as the company's senior representative on the Pacific Coast.

◈

## Magazine Holds Forum On Climate Control Project

TWENTY-SEVEN months ago *House Beautiful* magazine began a program designed to define the numerous American climates in terms of how they affect housing and land development and to create for editorial presentation houses that most effectively reduce the stresses and strains of climates on the occupants.

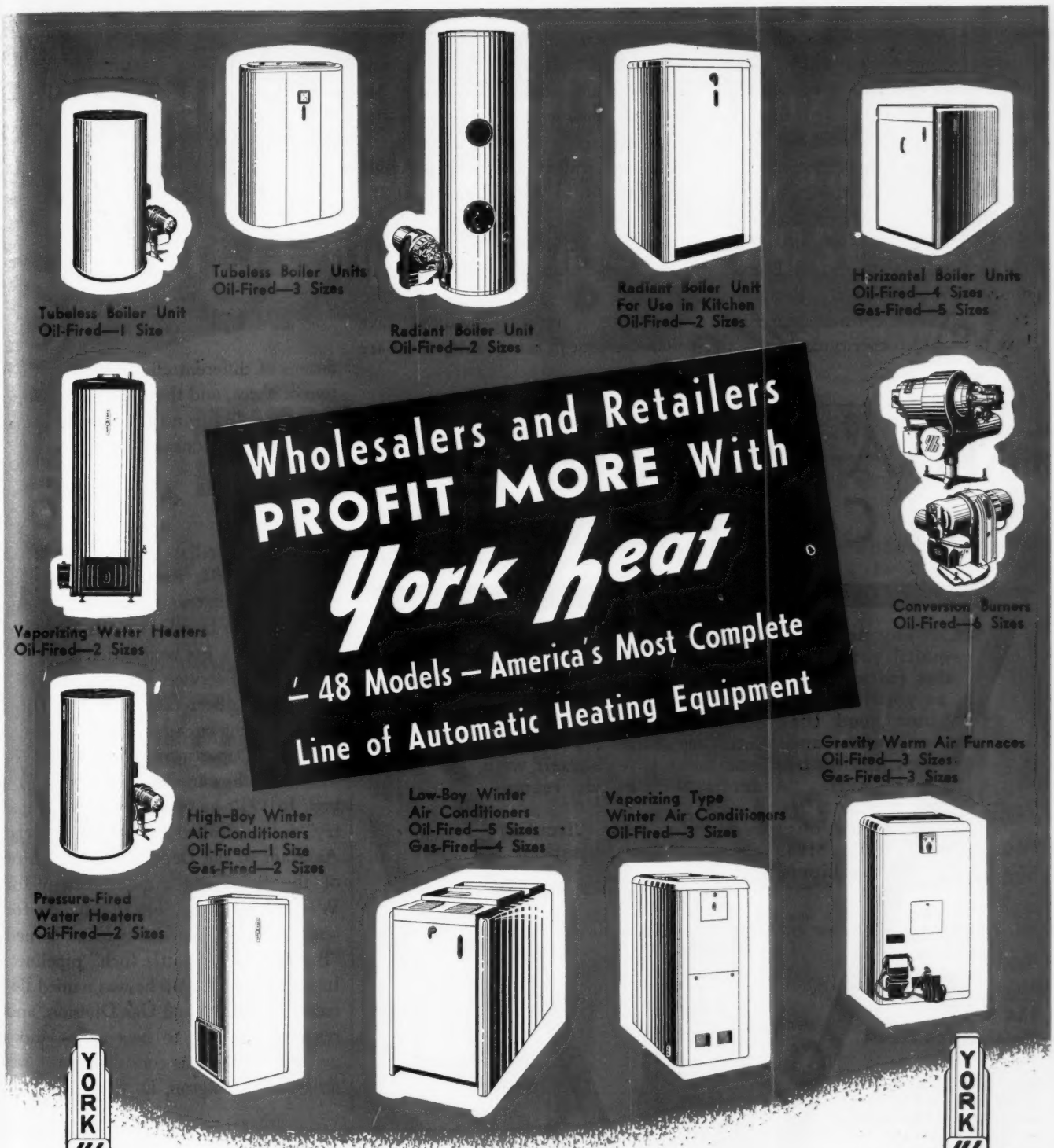
A technical forum, held September 20 at the Waldorf-Astoria Hotel, New York, was the first in what is intended to be an annual series on the subject. Addresses were delivered by a group of participating scientists.

"Honestly, to hear him tell it, this dictionary is never wrong!"

They reported that few American homes as presently designed and built are able to take best advantage of either their local climatic conditions or, more particularly, the individual conditions that are peculiar to the site on which the home is built. As an example, the north slope of a ridge, all other things being equal, will receive more effective sunshine than a location on the south slope, and hence, will make a better home site.

Data developed will provide guidance

The Customer Always Returns
General
FUEL OIL FILTER
DE LUXE MODEL
2A-300
Model 2A-300 for exceptionally dirty tanks and large furnaces and boilers. .9-1/16" high; 5-1/2" diameter; 3/8" pipe openings.
General
FUEL OIL FILTER
STANDARD MODEL
1A-25
Model 1A-25 for space heaters, hot water heaters and small furnaces. 4-3/4" high; 3-1/2" diameter. Same style but with double capacity available as Model 2A-700.
FOR YOUR PASSENGER CAR OR TRUCK
General Filters are now available for your car or truck. Cartridges changed in one minute without tools. Complete kits include brackets for either engine or dash mounting. Put one on your car and truck. Regular dealer discounts.
You can be sure of repeaters when you sell a General Filter because the customer is always pleased with his money saving investment. So pleased, that it is natural for him to return year after year for a new cartridge. And your profit doesn't stop at the initial sale; it goes on and on with only a minimum of service from you.
A General Filter on every fuel oil burning installation is a good deal for both you and your customer — you make a nice profit on every sale and your customer is saved annoyance and expense from clogged burners.
MORE THAN 1600 JOBBERS TO SERVE YOU
GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTER
12890 WESTWOOD AVE. DETROIT 23, MICHIGAN
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 173 STRACHAN AVE., TORONTO 3, ONTARIO




YORK-HEAT'S complete line of oil and gas-fired automatic heating equipment—48 models for every type of home heating—brings more PROFIT to wholesalers and retailers because . . .

With York-Heat, sales efforts can be concentrated on one line of nationally recognized, time-tested heating equipment, and

With York-Heat, all heating jobs can be handled regardless of price or size.

Territories are still open for aggressive wholesalers and retailers who qualify for York-Heat franchises. If you are considering a heating equipment franchise, or if you are thinking of changing your present franchise — get the York-Heat story first, then decide. Don't miss this chance to be a leader in your community.

Write for complete details today to . . .

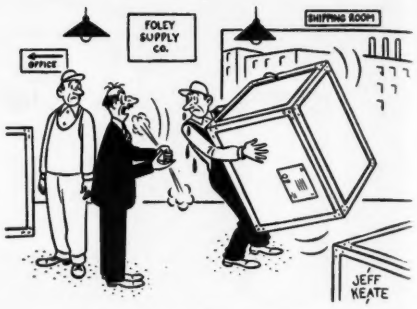
**York-Heat Division YORK-SHIPLEY, INC. York 4, Penna.**

on the best land for development, orienting houses to harness sun and wind conditions, where mechanical ventilation is needed and similar data on precipitation and humidity.

Sixteen regions have been studied and analyzed, with an editorial schedule established to discuss each area individually. Columbus, Ohio was the subject of the October 1949 issue, with Denver, Colorado, the last region, to be covered in the July 1951 issue. Intervening issues will be devoted to other typical areas all over the country.

Published data, based on the analyses, will be non-technical. However, the complete analyses are being published bi-monthly in the American Institute of Architests, with reprints available from *House Beautiful,* New York 22, at 50¢ each.

The project is not intended to unearth new climatological data, primarily, but rather in interpreting and evaluating existing records. Findings have concluded that in this country there are dozens of different climates rather than two or three, and that by using existing climate control principles existing homes can be made considerably more comfortable.

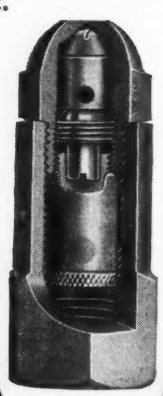



"Confound it, Davis, must you work so hard around here? It's beginning to show in your poor bowling average on the company team!"


# TAKE A MONARCH "TIP"-- AND COMPARE RESULTS!

**Most any nozzle will produce some kind of a fire, but —until you have tried Monarch Stainless Steel Nozzles (of a type with spray characteristics matched to your air mixing equipment) you won't know how good they really can be. Advise make of burner and sketch or accurately describe air mixing head and make test *yourself* with the series Monarch Nozzles we recommend.**

**Pulsation: Write for new Circular No. 51849 on our "Anti-Pulsation" equipment.**



F-80

**The G-74 Combustion Head**

The Monarch G-74 Head embodies an entirely new approach to efficient means for intimately mixing air with atomized oil to provide a highly efficient controlled flame.

***Note these features:***

1. Suitable for capacity sizes from .75 GPH to 2.50 GPH.
2. Simple to install and there is no "guess work" about the settings.
3. Price—Less than the cost of a good fuel unit.

**Replacement Valves**

Monarch G-49 piston type pressure regulat- and cut-off valves are available in models to suit most replacement needs. They can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode. Rugged Brass bodies, with stainless steel pistons.

Write for Catalog D

**MONARCH MFG. WORKS, INC.**

2503 E. ONTARIO ST.

PHILADELPHIA 34 PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland


*Max W. Ball* was the recipient on August 30 of a citation presented at the United States Department of the Interior Fifth Honor Awards Convocation, to mark his resignation after fifteen years of service. Inscribed by Hon. J. A. Krug, Secretary of the Interior, the document cites Mr. Ball's activities with the Department, commencing in 1906 when he joined the Geological Survey. In 1917 he entered private industry, to be recalled in 1943 as Special Assistant to the Deputy Administrator of the Petroleum Administration for War and again in 1946 to organize for temporary use the Government-owned "Big Inch" and "Little Inch" pipelines. In December of 1946 he was named Director of the Oil and Gas Division, and resigned recently to become an independent oil and gas consultant with offices in Washington, D. C.

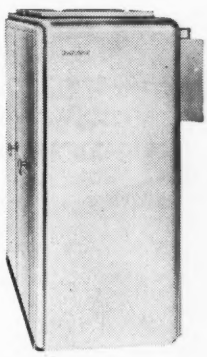
*Charles D. McIntire* has been named industrial sales manager, Cincinnati, Ohio branch, Brown Instruments Div., Minneapolis-Honeywell Regulator Co., Philadelphia, Pa., succeeding *George Brown,* assigned to promotion of Belfield Valve division products. *John E. MacConville* now supervises industrial sales for Brown's Atlanta branch, with jurisdiction over activities also in the Birmingham, Jacksonville and Knoxville offices, and *William C. Waltman* has been placed in charge of industrial sales out of the South Bend office. He succeeds *George Gilliam,* who has advanced to the supervision of pyrometer supplies sales.

# MONCRIEF Simplifies your Buying and Selling of Gas Fired Heating Equipment BECAUSE . . .

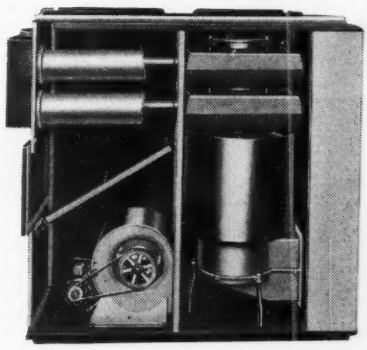
## MONCRIEF BUILDS a complete line of BOTH CAST IRON and STEEL UNITS

If the job specifies a Cast Iron Unit—you have it! If the job specifies a Steel Unit—you have it!—because Moncrief builds them both and in a range of sizes that will fit practically any heating job.

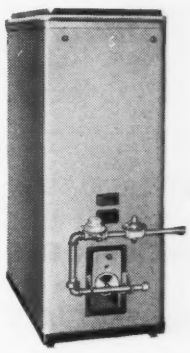
Basement Air Conditioning Units . . . Utility Air Conditioning Units . . . Counterflow Air Conditioning Units . . . Gravity Furnaces . . . for large homes, small homes, homes with basements, homes without basements. From 50,000 B.T.U. to 200,000 B.T.U. input — Moncrief makes them all.



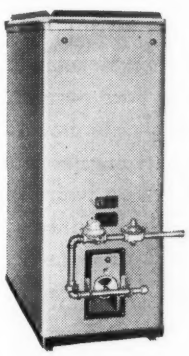
SERIES CL
Air Conditioning Unit
Cast Iron heating element



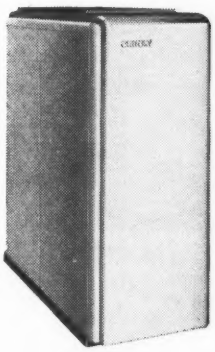
Side interior view of No. CL-200 unit. Cast Iron heating element 200,000 B.T.U. input.



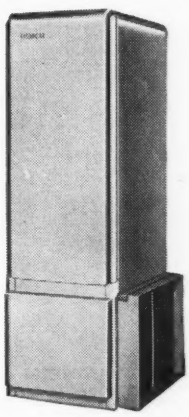
SERIES CW
Gravity Furnace
Cast Iron
heating element



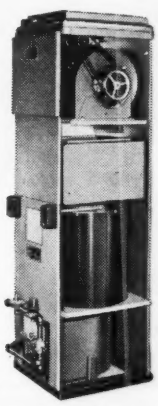
SERIES W
Gravity Furnace
Steel heating element



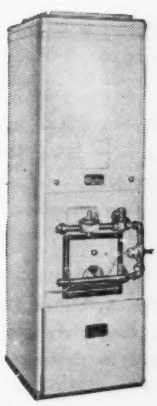
SERIES L
Air Conditioning Unit
Steel heating element



SERIES U
Utility Air
Conditioning Unit
Steel heating element



NO. UC-E
Interior view Counterflow
Air Conditioning Unit
Steel heating element



NO. U-E
Utility Air
Conditioning Unit
Steel heating element

**THE HENRY FURNACE COMPANY**

**Medina, Ohio**

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

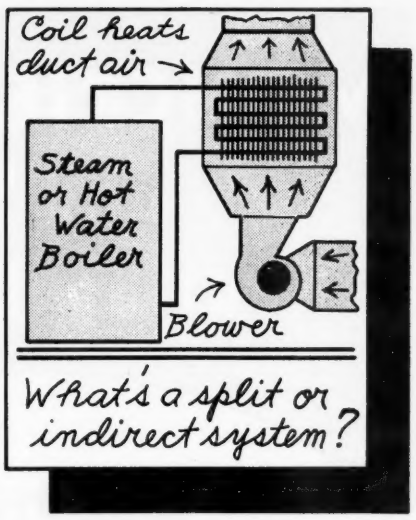
fueloil & oil heat

## Reader's Problems

*Q. Because a man planning to put up a large home says he wants this kind of plant, we blush to say that after being in the oilheating business more than 20 years we must ask you to tell us what's a split or indirect system?*

*A.O.D., Wichita, Kansas.*

A. Ideas on this differ in different localities, but according to one definition an indirect system has a steam or hot water boiler (which incidentally when oil-fired usually provides summer-winter hot water) which during the heating season provides heat for a large coil that heats the rooms through use of ducts and registers. Modern systems of this type have forced-circulation air blowers, air filters, and humidifiers.




A split system is the same thing except that while some of the rooms are heated by ducts and registers, others are heated by steam or hot water radiators connected to the boiler.

* * *

*Q. Should the breeching damper of a boiler fired by a manually-controlled oilburner be kept closed partways, or should it be bolted open permanently to be on the safe side? The 150 hp high pressure boiler of the institution is fired by an industrial pressure burner.*

*A. W. M., Chicago.*

A. For maximum fuel economy, the proper draft should be maintained. Combustion testing instruments must be used to determine the proper over-fire draft. In fact, the job should have a permanently installed draft regulator to indicate over-fire draft. For a boiler of the type you describe, this draft may be between .05" and .15". The higher draft probably is needed for maximum loads.

Use the damper to regulate the draft, but to improve the installation install an automatic draft regulator designed for such an industrial application.

* * *

*Q. I'm looking at p. 42 of your June 1941 issue. Yes, I keep stacks of old issues at hand, use them, too, to great benefit. Here it is pointed out that with*

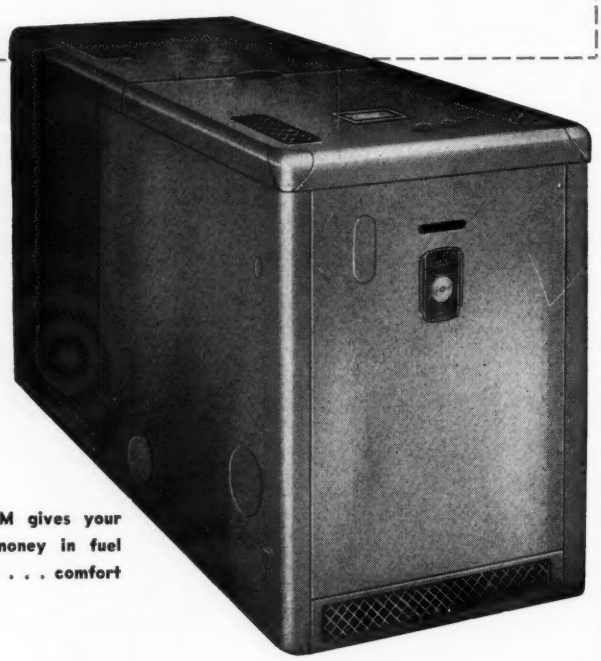

WHY MORE DEALERS ARE CHANGING TO

Bethlehem DYNATHERM

★ FASTER SALES

★ BIGGER PROFITS

★ MORE FEATURES



The Bethlehem DYNATHERM gives your customers more for their money in fuel economy . . . in compactness . . . comfort and convenience.

The Bethlehem DYNATHERM comes to you completely equipped with everything, ready for installation, except the piping. Service expense is minimized. Backed by a 118-year-old organization of broad experience in the field of heat production and transfer.

The Bethlehem DYNATHERM offers you all the features that make your sale easier . . . The Whirling Flame . . . Unit Engineering . . . "Thermos Bottle" Insulation . . . Beautiful Cabinet.

*A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.*

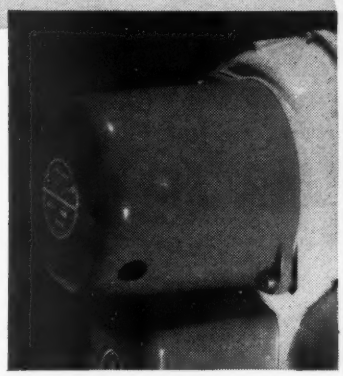
BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

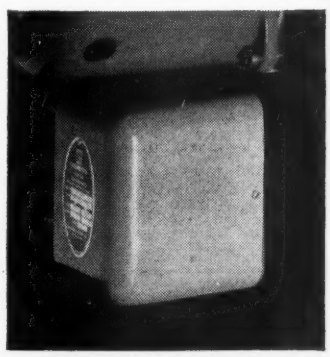
# 2 NEW SALES-CLINCHING FEATURES — Designed Exclusively for Nu-Way OIL BURNERS

## 1 NEW!

### FRACTIONAL HORSEPOWER MOTOR

Designed and manufactured by Nu-Way to meet exact requirements of Nu-Way Oil Burners. Removable cover allows ready access to thermal cut-out switch and magnetic starting switch inside motor housing. Tested and approved by Underwriters' Laboratories.

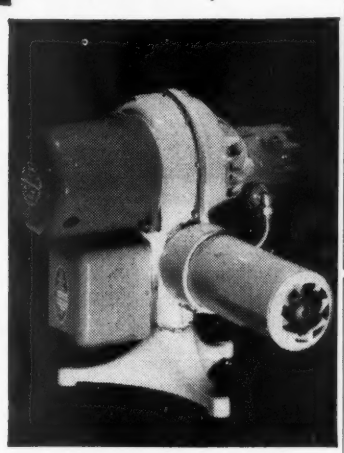




## 2 NEW!

### AIR-COOLED STEP-UP IGNITION TRANSFORMER

Rugged construction meets needs of continuous and intermittent operation. Special shield eliminates radio interference. Engineered and manufactured by Nu-Way to meet exact specifications of Nu-Way Oil Burners.



## MORE SALES... GREATER PROFITS.. ADDED PRESTIGE with Nu-Way OIL BURNERS

The new fractional horsepower motor and the air-cooled ignition transformer are two more important reasons why the Nu-Way line will increase sales and profits for you. Nu-Way's greater durability, operating efficiency and economy are making new friends every day. Look to Nu-Way for further advancements designed specifically for oil burners. Remember that Nu-Way Oil Burners are designed, constructed and tested by Nu-Way engineers in the Nu-Way plant.

The Nu-Way line is backed by 28 years of oil-heating experience . . . and promoted nationally by a consistent hard-hitting advertising campaign, sparked by ads in the nation's top home publications.

*Write today for new folder containing details on the Nu-Way Line of oil burners.*

Nu-Way OIL HEATING EQUIPMENT

THE Nu-Way CORPORATION

ROCK ISLAND, ILLINOIS

*Sold Through Jobbers and Distributors*

Also Special Applications for Furnace and Boiler Manufacturers

*"Automatic Oil Heat Exclusively Since 1921"*

---

Waterbury

Florence RANGES AND HEATERS

Glenwood

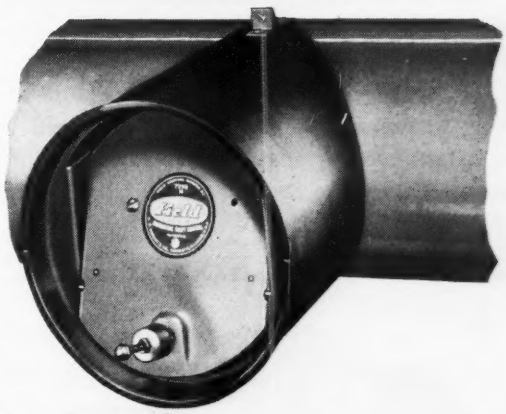
CLEVELAND Toridheet OIL BURNERS

Monogram RANGES HEATERS

HART & HEAT

ON THE Finest HEATING EQUIPMENT

# Field CONTROLS THE DRAFT



## Field CONTROLS BRING OUT THE FINEST IN EVERY HEATING PLANT

Today, Field Controls are first choice with manufacturers of oil-fired heating equipment. And this preference is based in every case on the manufacturer's own rigid and exhaustive tests. Each test has proven that Field is the most accurate, most dependable, most "saleable" draft control made. The reason is Field's famous, patented design features: *"Rocking Chair"* gate and pivot action, to reduce friction, increase sensitivity; *Off Center Gate Mounting* which provides a larger effective area for draft action; *Side Wings* for closer air volume control; *Extended Housing* which places the gate outside the reach of fouling, warping soot and heat. Only Field has all these features, and only Field enjoys unqualified acceptance by manufacturers, dealers and consumers.

WRITE for full details on the complete Field Barometric Draft Control line—for greater fuel economy, longer heating plant life, greater customer satisfaction.

FIELD CONTROL DIVISION

H. D. CONKEY & COMPANY MENDOTA, ILLINOIS

AFFILIATES: CONCO MATERIALS HANDLING DIVISION CRANES—HOISTS

Field REGISTERED

AFFILIATES: CONCO BUILDING PRODUCTS, INC. BRICK—TILE—STONE

BAROMETRIC DRAFT CONTROLS

*the flame set rich as possible without giving a show of chimney smoke the boiler needs cleaning three times a year, and 30 days of operation gives sooting that raises the oil consumption 6.6% and the stack temperature from 575° to 710°. Is this 30-day increase in stack temperature usual, would you say now, with the boiler giving no sign of chimney smoke? For a small home, it's better to adjust for 9% $CO_2$ and clean the boiler flues once every two years than to set for 12% $CO_2$ and clean the boiler three times a year.*

*U.C., Oakland, Calif.*

A. Sorry, although the increase in stack temperature does seem high for a job not giving a sign of chimney smoke, we haven't data at hand to prove it is unusually high. That 1941 article was written without the help of data from smoke checking instruments, as in those days such instruments were not generally used. If smoke readings could be added now to the data in the article, it would be far more helpful. One trouble in the old days was that one fellow said a chimney gave no signs of smoke while another opined that it gave "just a trace."

* * *

*Q. This has been asked before, but never answered satisfactorily. I show a sketch of gun parts in a pressure burner, just like the parts used years ago in most burners and used yet today in many. By loosening the four-blade electrode holder from the nozzle line and loosening the porcelain insulators, I can re-assemble and change distance "A," the distance of the center of this part to the end of the gun tube. I can put the electrode holder at either end of the porcelain insulators, keeping proper spark point settings but moving the holder a total of four inches adjustment distance in an ordinary burner. With the burner running, in many burners distance "B" can be altered easily to put the nozzle ahead of the vane-type air cone at the end of the gun tube, or far inside this air cone.*

*Please settle the questions fully for once and tell in detail the effects of changing dimensions "A" and "B" in service work.*

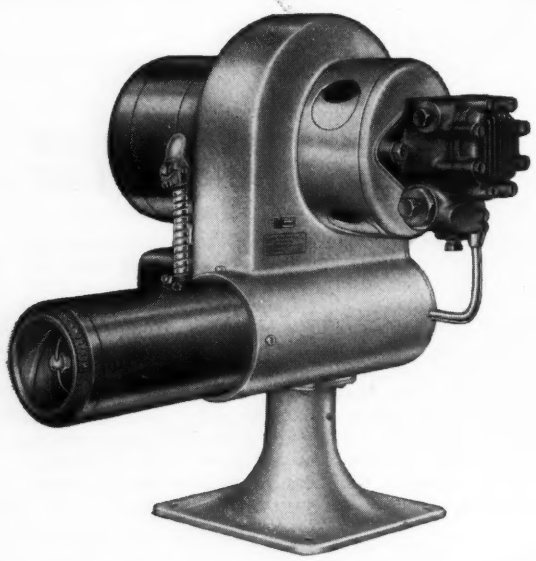
*V.T.M., Brooklyn, N. Y.*

A. Sorry, but you are wrong in thinking that the type electrode holder you show is intended for adjustment over the wide range you describe. With plain, not recessed, porcelain insulators, the distances "C" and "D" which we have added to your diagram should not, according to good practice, be reduced below 2". Assembling the parts and making either "C" or "D" less than 2" is wrong. It causes good chances of a spark's travelling over the outside of the porcelain, particularly an old porcelain insulator coated with dirt, dust, or soot.

You can, of course, properly change distance "A" for experimental purposes by switching to electrodes with different length tips.

While there are no definite beliefs in the industry on this, certain engineers and service men suspect that in general a wider, bushier fire results from reducing distance "A," that is locating the blades closer to the flame. Check on this yourself on an actual installation.

Theoretically, the oil spray from the nozzle is mixed better with the air from the blower if distance "B" is made as great as it can be without creating

*Announcing a* **NEW** *Johnson Burner in the*

**low-price field...**

*The* **ECONOMAT**

**Now for the first time, the makers of world famous Johnson Oil Burners have entered the lower price field with an automatic pressure-type burner which outperforms many heating units that cost twice as much.**

**With this super-efficient new unit you can meet virtually any price competition. In the Economat you have a burner that offers every good feature of modern burner design: automatic controls, high efficiency, fuel economy, streamlined modelling . . . all this plus the prestige of one of the oldest names in the oil-burner industry.**

**The Economat operates on low priced oils as heavy as CS 12-48 No. 2 or "Pacific Coast Specif. No. 200" at firing rates ranging from .75 g.p.h. to 2.25 g.p.h. It burns with a "soft" flame that is quiet, clean and complete . . . and exceptionally economical.**

**If you're faced with "price competition headaches" it will pay you to investigate the Economat quickly. See your nearest Johnson dealer or write to us direct.**

**COMPLETELY AUTOMATIC! SAFE! DEPENDABLE!**

*Plenty of Power for any ordinary sized home!*

**EASY TO SELL!**

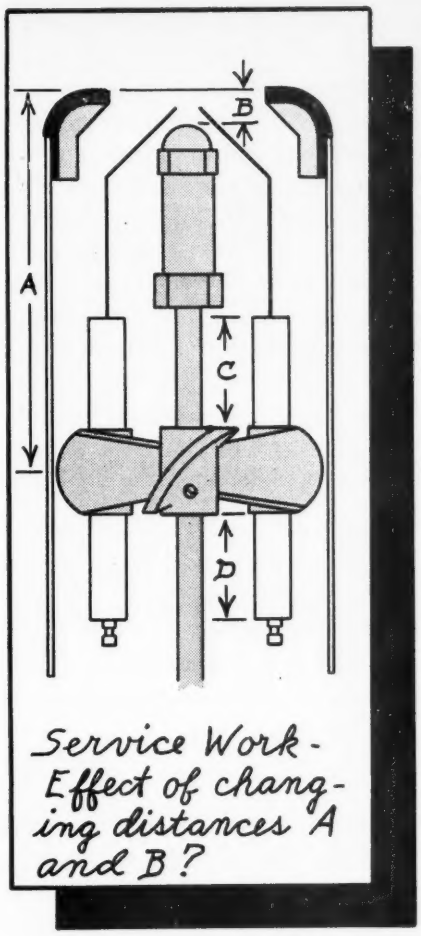
**EASY TO INSTALL!**

**EASY TO SERVICE!**

*Johnson Oil Burners*

Builders of fine Oil Burner Equipment since 1903

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.




chances of atomized oil striking the inside of the air cone. Practically, things don't always work out that way. One burner carefully tested proves, for example, that "B" can be zero, ½", or 1" with no difference in performance when the burner fires an excellent combustion chamber. Best combustion in an oversize, cool firebox comes in this instance with "B" 3/8" for a 90° nozzle, ¾" for a 70° nozzle, and 1⅛" for a 50° nozzle.

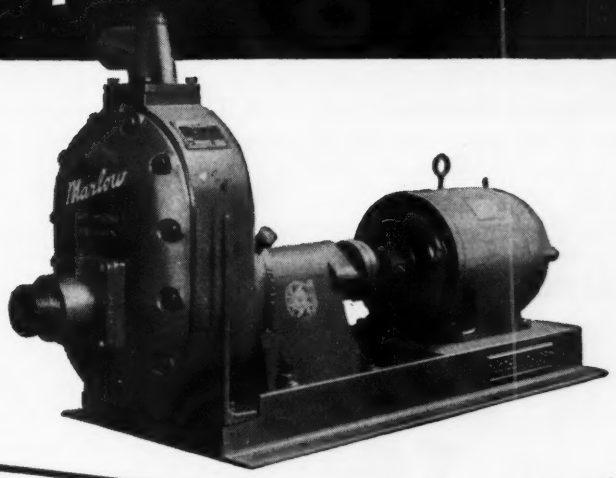
To do best at setting distances "A" and "B" on a particular installation, you simply have to use the best in burner know-how, together with a $CO_2$ tester and a smoke checking instrument.

* * *

*Q. How do you tell if radiator cabinets, well closed in and used on living room and dining room radiators, cut the heat output? A cut in heat output would make the old radiators undersize in effect and increase the oil consumption.*
*F.J.W., Pittsburgh.*

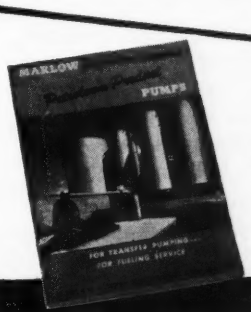
A. There's no method by which a numerical answer to the problem can be obtained easily and quickly on the job.


# The MODERN pump for petroleum products




## ONLY a MARLOW offers all these advantages . . .

- Centrifugal action — quiet and efficient.
- Self-priming on suction lifts.
- Self-purging — will not vapor lock.
- Higher capacity for size.
- No rubbing parts — long life and low maintenance cost.
- No internal priming valves or devices. Positive priming action.
- No gear reductions — operate at standard motor speeds.
- No by-pass or pressure-relief valves; no burned out motors or overloaded engines.
- May be placed outdoors — no pump house required.
- Continued high capacity at low initial cost.
- Marlow self-compensating shaft seal.




Send for a copy of bulletin PM48 that gives details.

MARLOW PUMPS • RIDGEWOOD, N. J.

MANUFACTURERS OF QUALITY PUMPS SINCE 1924

As you say, the oil consumption will increase if the heat output of the radiators is decreased greatly. If the K-System of automatic fuel deliveries is used, a change in the K-Factor of the account will prove positively that the cabinets are raising the fuel consumption.

If the heat output of the radiators has been cut greatly, the temperature of the other rooms will be higher since the cabinets have been installed, assuming that the room thermostat is affected mainly by heat from the radiators which have been enclosed. If the living and dining rooms fail to heat easily and quickly on coldest mornings now, though they heated well before, obviously the radiators are now giving less heat.

* * *

*Q. We use a basement expansion tank to avoid spilling of water from a modern closed hot water system. But a certain system has no such tank and spills no water. Why?*

*B.H.T., Trenton, N. J.*

A. The expansion tank is used to make certain there will be no spill of hot water, and resultant feeding of cold water to the system later, when the system's temperature is raised from minimum to maximum. Air trapped in the radiators (old-fashioned radiators trap more air than modern radiators), pipes, or boiler of the system you describe probably is taking the place of air trapped in an expansion tank. You do not say if you are talking about an old system, which may be trapping air by accident and in which the trapping of air may not be dependable, or a new system which may have special features intended to eliminate the need for an expansion tank.

* * *

*Q. We start a new oil-fired warm air unit. How long should we wait before checking back to make certain everything is all right? Should we make combustion tests when we start-up or check-back?*

*G.T., Westplains, Mo.*

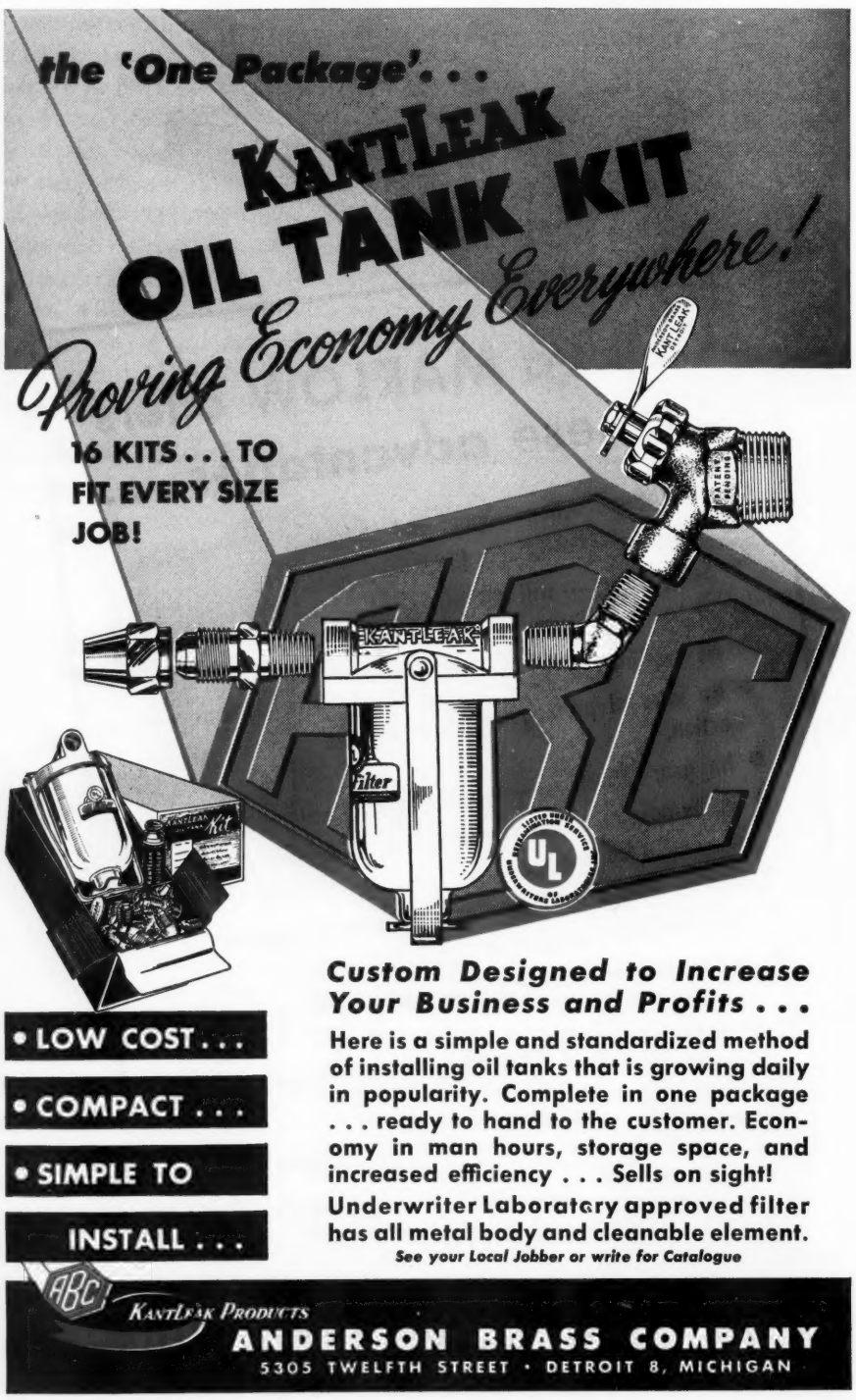
A. If you have reason to worry about a new job, check back in five days or so. Otherwise follow the usual practice and check back in about 30 days. Make the tests when you start the equipment. You should find out for yourself how well the equipment is doing as soon as you start it, and you should give the owner a written report on the tests. If you change the adjustments on your check-back, combustion test the job again. After all, using modern instruments you can make the tests in five minutes.

* * *

*Q. Why not point out, on p. 122 of your September issue, that heat stored in a boiler counts when a tankless coil is used? With the boiler chilling from 180° or 200° down to 125°, doesn't it give out stored heat in the same way a hot water tank does?*

*A.S., Brooklyn, N. Y.*

A. Yes. With the boiler water chilling over the range you mention, Btu's for water heating do come from the boiler metal and boiler water, and these Btu's are in addition to those provided by the small fires mentioned in the item. Your point can be demonstrated by drawing hot water with the burner turned off. The number of gallons of water available at a faucet and hotter than 125° can



the 'One Package'...
KANTLEAK
OIL TANK KIT
Proving Economy Everywhere!
16 KITS... TO FIT EVERY SIZE JOB!
KANTLEAK
Filter
UL
• LOW COST...
• COMPACT...
• SIMPLE TO INSTALL...
Custom Designed to Increase Your Business and Profits...
Here is a simple and standardized method of installing oil tanks that is growing daily in popularity. Complete in one package... ready to hand to the customer. Economy in man hours, storage space, and increased efficiency... Sells on sight!
Underwriter Laboratory approved filter has all metal body and cleanable element.
See your Local Jobber or write for Catalogue
ABC
KantLeak Products
ANDERSON BRASS COMPANY
5305 TWELFTH STREET • DETROIT 8, MICHIGAN

# ONE TUTHILL FUELSTAT CAN SERVE THESE FOUR REQUIREMENTS

Clockwise rotation and right-hand nozzle port (as shown)

Counter-clockwise rotation and right-hand nozzle port

Clockwise rotation and left-hand nozzle port

Counter-clockwise rotation and left-hand nozzle port

Exclusive Tuthill features make it possible to fit the same Model 3OEN Fuelstat to any one of these requirements *in the field*—quickly and easily.

**Write for full details.**

**TUTHILL PUMP COMPANY**
939 E. 95th Street, Chicago 19, Ill., Phone REgent 4-7420

*Here's the Radiator Valve that Automatically*

## KEEPS EACH ROOM AT THE DESIRED TEMPERATURE

Modern heating men insert Heat-Timers in place of ordinary radiator air valves. For this precision, thermostatic valve enables your customers to enjoy the exact temperature they want *in each room.* They simply set the dial – Heat-Timer does the rest. Over 50,000 Heat-Timers are giving superb service today! Heat-Timer works on any one-pipe steam system...makes all other valves old fashioned.

### *Costs A Little More...* WORTH *Lots* MORE!

Besides giving added comfort, Heat-Timer actually pays for itself in fuel savings. Your customers will gladly pay the small extra cost of Heat-Timer when you explain its advantages. Heat-Timer retails at $4.95 each – you get your usual discount.

### At Your Jobber's—Or *Write for Sample*

Your jobber has Heat-Timer valves, or can get them quickly. If you would like a sample for yourself, mail us the coupon below with $3.50 and we will send you one postpaid by return mail. Free folder gladly sent on request.

F-1

**HEAT-TIMER** CORPORATION 160 Fifth Ave., New York 10

☐ Please send me 1 Heat-Timer valve, postage-paid, for which I enclose $3.50.

☐ Please send me free literature without obligation.

Individual_____

Company_____

Address_____

My jobber is_____

be measured. But the point of the item is that a long, steady draw of water hotter than 150° and flowing at 3 gpm or 5 gpm should not be expected from a boiler fired only 1.0 or 1.25 gph, and that where the boiler chills with the burner running continuously the small size of the tankless coil is not to blame.

* * *

*Q. To settle an argument: Does smudge around supply registers, on lightly-painted rough plaster walls, prove ineffective air filtering where the filters are being changed every three months? On a furnace job?*

*C.T.O., Milwaukee.*

A. Definitely not! The dust particles that cause such smudges are not trapped in the most highly effective filters provided as part of warm air furnaces. To handle the trouble, use rubber strips to seal tightly around the edges of the supply registers, and try to adjust the vanes of the registers for less wiping of the walls by warm air. From what you say, probably the only improvement in air filtering on this job lies in installing electrostatic type air filters.

* * *

*Q. Though feeling sorry for the service man involved in the short-short service article on p. 69 of the September issue of FO&OH, I feel compelled to point out that if the data are complete he is at fault for not having taken oil line temperature readings both before and after his "improvement." Why did he not use the thermometers to guide him in solving the difficult problems related to preheating No. 6 oil?*

*D.W.C.L., New York, N. Y.*

A. Sorry, we don't know why he did not use the thermometers. He should have. We obtained from him and the owner the data for the short-short on service, and gave it out precisely as it came to us.

* * *

*Q. I've always thought a motor, transformer, etc., either was all right or had a ground in it and was N.G.*

*On the job, this motor gives a shock when running not grounded. It's done that for years. Otherwise it's dependable.*

*On the work bench in the shop, one test shows it's got a ground in it, the other test shows no ground, and it's impossible to get a shock out of the motor no matter how you try. Kindly discuss this.*

*K.S., Yonkers, N. Y.*

A. Basement dampness may be giving you a shock on the job from a motor that in a dry shop gives no shock. When the motor is on the job, it should always be grounded.

Depending on the sensitivity of the test method you use, one test may show a ground in a lightly-grounded motor while another test may show no ground. In the diagram, test rig A uses a Neon type sensitive tester, for example, rig B uses a five-watt bulb, and rig C uses a 100-watt bulb. Rig A will show up a very mild ground, one that permits less than one watt to pass through the motor's point of leakage when the motor case is grounded and both the 110-volt leads of the motor are connected to a


**QUIET-HEET'S BETTER VALUES**
***Are Your Best Salesmen!***

DOLLAR FOR DOLLAR
**QUIET-HEET**
GIVES YOU MORE . . . . .

- *More Value*
- *More Quality*
- *More Profit*
- *More—Easier FASTER SALES*

***Inquire About Our Profitable Sales Offer Today***

**QUIET-HEET** MANUFACTURING CORPORATION
135 N. J. RAILROAD AVE., NEWARK 5, NEW JERSEY

live wire. Rig *B*, using a five-watt bulb, would not show up such a very mild ground in the motor by lighting the bulb; a trace of electricity going through the motor while it is being tested would not light the five-watt bulb. To light the 100-watt bulb of rig C would require a bad ground in the motor.

You'd better take this motor to specialists who can easily determine numerically the value of the ground in it. Knowing just how much of a ground is tolerable for the particular motor, they will tell you whether or not the motor needs repairs.

* * *

Q. *Where a new pressure burner runs quietly only after you loosen and move the fuel unit to a quiet position with the burner running, isn't the flexible coupling of poor design in that it does not allow for slightly poor alignment of the two shafts?*

*H.E.T., Washington, D. C.*

A. No. The flexible coupling is not necessarily of poor design if the burner runs more quietly with the two shafts lined up perfectly or nearly perfectly. The coupling might not be making the extra sound when the alignment is poor. An excellent coupling might make a slight sound when the alignment is poor.

Where sudden hot water pulls—or an unpredictable time schedule—are in the order of things, install

Paracoil
INSTANTANEOUS
WATER HEATERS
TO KEEP PACE WITH THE LOAD—ALL THE WAY!

No storage tank is necessary—they have enough, and more, heating surface built into them to heat the water as fast as it is drawn! Thousands in operation.

*If you have such a problem, we have the answer! Stock designs permit quick delivery-at prices lower than you think.*

This bulletin, in addition to tables of capacities and physical dimensions on our U-Tube designs, contains a wealth of practical, worthwhile engineering data on how to size, figure steam requirements, and pipe up PARACOIL INSTANTANEOUS WATER HEATERS. YOUR COPY AWAITS YOU!

Write today for a copy of our new Bulletin 70 Section I, describing this line of Paracoil Water Heaters.

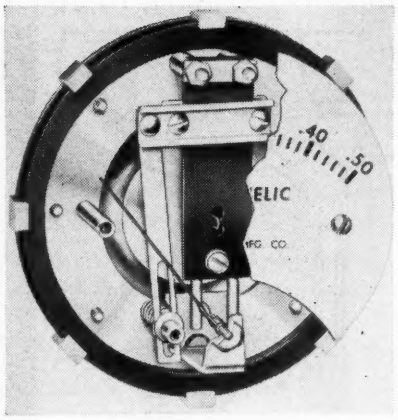
DAVIS ENGINEERING
CORPORATION
1064 East Grand Street
ELIZABETH 4, NEW JERSEY
30 Rockefeller Plaza
NEW YORK 20, NEW YORK
AGENTS IN PRINCIPAL CITIES

# New Products

## Dwyer Magnehelic Gauge For Checking Air Pressures

THE MAGNEHELIC GAUGE, which has been introduced by the F. W. Dwyer Mfg. Co., Chicago 12, Ill., is recommended for measuring air pressures in testing filtering resistance, measuring static pressures and air deliveries from 400 to 10,000 fpm and checking furnace draft. The gauge incorporates a flexible diaphragm supported by a cantilever spring which carries a magnet actuating the pointer assembly. A helical magnetic linkage is employed to transform the vertical motion of the diaphragm to rotary pointer motion. Motions of the magnet as small as ¼ thousandth of an inch are said to be reflected in minute movements of the pointer.

Plus, minus and differential readings are available with the gauge. Less than atmospheric pressures are connected below the diaphragm and above atmospheric pressures, above the diaphragm. The range is ½" to 12" of water. The



gauges are described as ideal for portable temporary use, as well as for permanent installation on flow meters, control equipment, automatic valves and similar applications. All types of connection—rubber tubing, ⅛" pipe thread of ¼" copper tubing—are possible and the gauge operates in any position.

## Autopulse Producing Two Models of Teesdale Pumps

AUTOPULSE CORP., Ludington, Mich., exclusive manufacturer of Teesdale automatic fuel pumps, is offering models TUX and R, the former with a maximum capacity of 30 gph, the latter, 75 gph. Using ½" suction lines, model TUX at no lift without restrictions achieves its maximum capacity; at 25' vertical lift it pumps 25 gph. Model R, in the same way, delivers its maximum at no lift and 65 gph at 18' vertical lift. Installation is accomplished by one man, it being necessary only to make one electrical connection, mount the pump with a factory furnished wall bracket, and make piping connections. A Unicheck valve, to prevent drain-back, also is furnished with each pump.

The complete wall pump consists of a motor driven, rotary pump in a 16-gauge steel reservoir, off and on switch controls for intermittent operation and built-in safety devices. The smaller model uses a ½" inlet line, the larger a ¾" line, both being equipped with 1" overflow lines.

## Sentry Offers Two Types of Remote Reading Tank Gauges

TWO TYPES of Sentry At-A-Glance remote reading tank gauges are available from Krueger Sentry Products, Green Bay, Wis., one for underground, the


EDCO NO. S-252

THE FILTER

with 98 sq. in. of surface area

Your BEST Filter Buy For PERFORMANCE and PROFITS

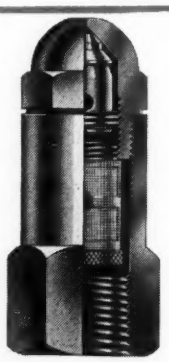
**Even microscopic oil impurities are filtered out as oil flows freely thru the 98 square inches of surface area. The specially designed cartridge with the extensive area, gives maximum protection to oil burners, space heaters and water heaters using 1, 2 or 3 fuel oils.**

***Better Value for Less Money***

**Because of its extra large surface area EDCO filter lasts longer, gives customers maximum protection and keeps them happy.**

***And the price is right!***

**ORDER A SUPPLY TODAY**



**EDCO NOZZLES**
Designed to stay clean longer and TRIPLE-TESTED — for spray angle, atomization and actual rated capacity.

EDCO

EDDINGTON METAL SPECIALTY CO.
P. O. BOX K, EDDINGTON, PA.

Front panel removed to show motor and blower.

**H.C.Little WINTER AIR CONDITIONERS FOR BASEMENT INSTALLATION**

**H.C.Little UPRIGHT FORCED AIR UNITS FOR FIRST FLOOR INSTALLATION**

**H.C.Little GRAVITY TYPE FURNACES FOR BASEMENT INSTALLATION**

# Three Keys to Unlock the Small Home Market

## *and profit from increased oil heating sales!*

The owners and contractor-builders of small homes comprise a huge and profitable oil heating market ... to which you can unlock the door with these three H. C. Little keys:

1 **Type AC** They run themselves—and with maximum economy! Exclusive H. C. Little automatic electric ignition and vaporizing oil burner are big sales features. Size A-AC, 84,000 BTU output; Size B-AC, 125,000 BTU output.

2 **DU-44 C. I. B. L.** Perfect for small homes without basement or with concrete floor slab. Only 60" tall and proportionately compact for utility room installations. 78,500 BTU output. *DU-44 C.I., same less motor and blower, for basement gravity use. 60,000 BTU output.*

3 **Type AG-CI** A popular H. C. Little gravity furnace for many years. Widely used in small homes where budgets are modest. Only for basement use. 50,000 BTU output.

### These Features Make It Easier!

Like all H. C. Little units, these oil furnaces **LIGHT THEMSELVES—SO THEY SELL THEMSELVES** Remember that NO oil furnace is truly automatic if the thermostat merely turns up the fire from LOW to HIGH. H. C. Little units ARE truly automatic; they have NO PILOT LIGHT. The thermostat turns the fire OFF ... or ON, by means of H. C. Little's exclusive electric ignition.

Like all H. C. Little units, these oil furnaces **BURN LOW COST CATALYTIC OIL.** Any oil heating equipment not so equipped is at a competitive disadvantage!

**H. C. Little dealerships in some territories are available. Write to:**

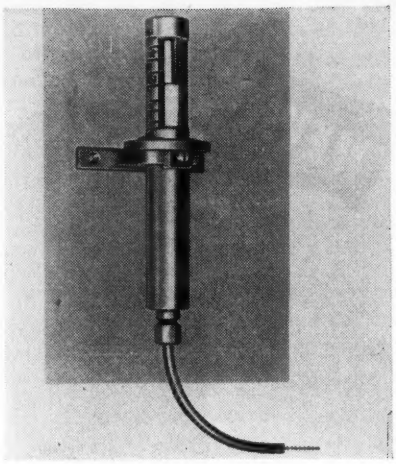
**H.C.Little Burner Company**

**HEAD OFFICE AND FACTORY, SAN RAFAEL, CALIFORNIA or to the office in the city nearest you.**

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Fayetteville, No. Car.
Kansas City, Mo.
Larned, Kansas
Newark, N. J.
Portland, Ore.
Prescott, Ariz.
Reno, Nev.
Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.

other for basement fueloil storage tanks. The gauges operate by means of a stainless steel bead chain which moves within a brass tube from the tank fitting to a remote reading indicator, the movement being actuated by the rise or fall of a float in the storage tank. A stainless steel spring in the indicator fitting is provided to maintain counter-tension on the bead chain.

Types D-0 and D-10 for basement tanks are furnished with an indicator on the tank and a remote indicator to mount on outside wall at or near the fill



pipe to provide a constant reading of oil level. Type D-U, for underground tanks with 2" tank openings, provides a constant reading indicator located at a point above ground. Both are furnished as packaged units, complete with all parts and materials for a normal installation.

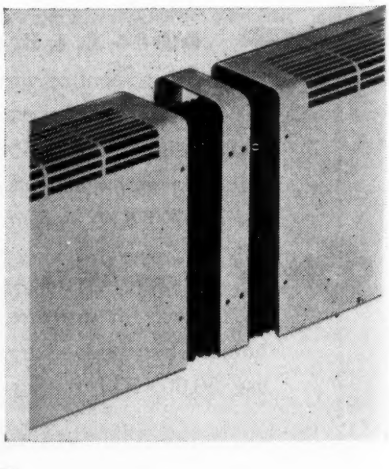
## Ideal Adds Small Size Porcelain Wire Connectors

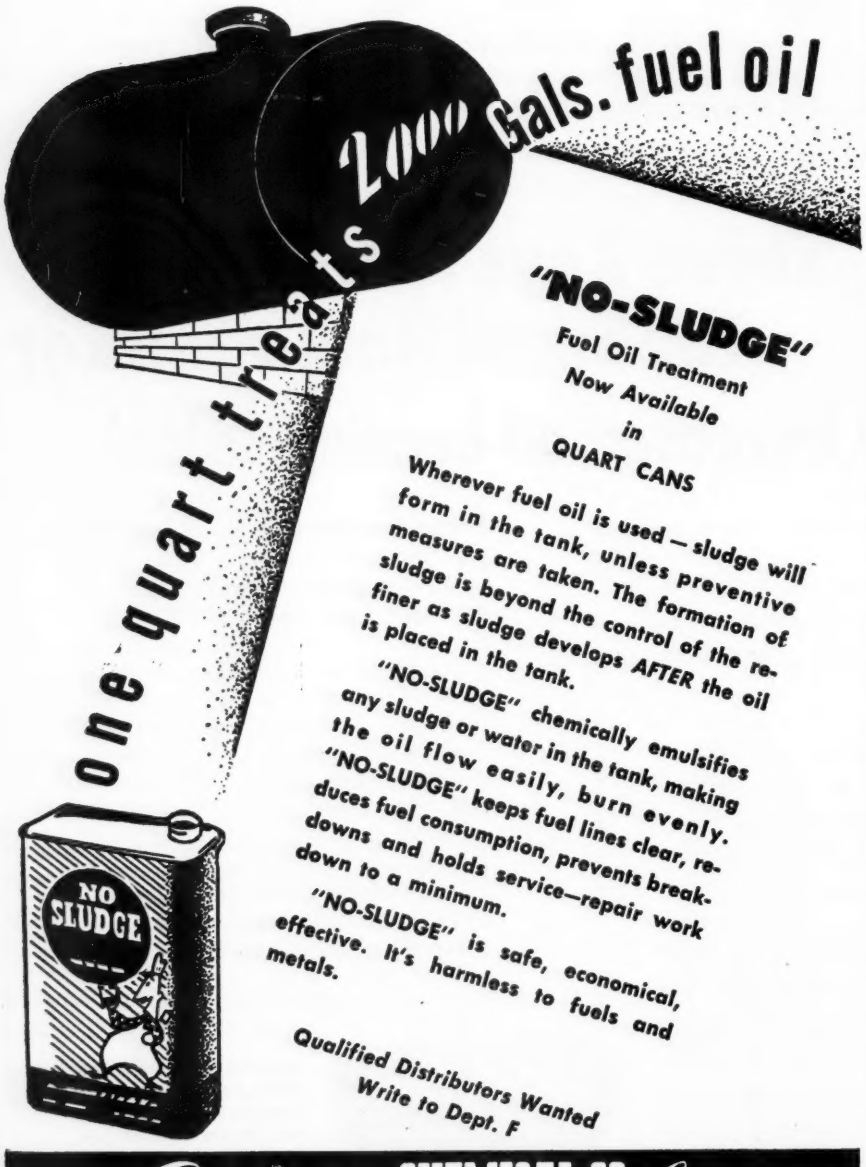
MODEL E-1, small size porcelain wire connectors, announced by Ideal Industries, Inc., Sycamore, Ill., consists of sizes for joining wires up to 4 No. 18 and is made of molded porcelain, with rounded threads that tend to press instead of cut stranded wire. The inside of the skirt is threaded from one end of the connector to the other, holding the insulation up inside the connector and completely covering the stripped wire ends. The model is an addition to larger size porcelain and a line of bakelite wire connectors.

## Steel Tubing and Fins Used in Rittling Finned Tube Convectors

RIGIDLY CONSTRUCTED finned-tube convectors, available from The Rittling Corp., Buffalo 13, N. Y., have been designed for industrial and general buildings and consist of seamless steel tubing with heavy gauge steel fins rigidly attached by a special process of tube expansion. The convector radiators are especially adaptable to long wall spaces and are available in increments of 1 ft. from 2 to 12 ft. Units also may be furnished fabricated from seamless copper tubing with heavy gauge aluminum or copper fins. Either type may be used on systems operating up to 200 psi working pressure.

A newly developed cover, used with





one quart treats 200 Gals. fuel oil
"NO-SLUDGE"
Fuel Oil Treatment
Now Available
in
QUART CANS
Wherever fuel oil is used — sludge will form in the tank, unless preventive measures are taken. The formation of sludge is beyond the control of the refiner as sludge develops AFTER the oil is placed in the tank.
"NO-SLUDGE" chemically emulsifies any sludge or water in the tank, making the oil flow easily, burn evenly. "NO-SLUDGE" keeps fuel lines clear, reduces fuel consumption, prevents breakdowns and holds service—repair work down to a minimum.
"NO-SLUDGE" is safe, economical, effective. It's harmless to fuels and metals.
Qualified Distributors Wanted
Write to Dept. F
NO SLUDGE
Dominion CHEMICAL CO., Inc.
WATER CONSULTANTS AND CHEMISTS
FOR INDUSTRIAL AMERICA
11 WEST 42nd ST. • NEW YORK 18, N.Y.

the convectors, is of one-piece steel construction, with solid front surface, perforated top and open bottom. Covers are available in lengths from 2 to 6 ft. in ½ ft. increments, supplied with joining pieces and end caps, as well as special mitred end covers for corners. Sloping top cabinet type covers also can be furnished.

## Offers Device to Seal Out Drafts Around Door Sills

THE SENTRY STOP-A-DRAFT, distributed by Waterloo Sales Co., Cleveland 10, Ohio, is offered as an automatic device to seal out drafts, dirt and noises by pressing a felt shield to the floor when the door, on which it is attached, is closed. It is made of heavy gauge steel and moth-proof felt, with two springs controlling its operation. A projecting pin pressed into the unit when the door is closed drops the felt shield to the floor and seals the opening. Unit is 2" high, ⅜" wide and may be attached with a screwdriver.

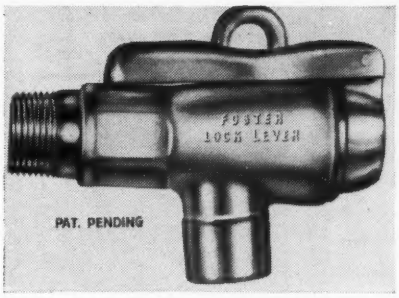
## Weston Humidity Indicator With Fan Attachment Added

RELATIVE HUMIDITY INDICATORS made by Weston Electrical Instrument Corp., Newark 5, N. J., now can be equipped with a motor-operated fan. The fan, powered by dry cells, moves air over the indicator's wick to permit stable readings within 30 secs. Models are now available with the fan, or it can be added separately. No calculations are required, but readings are obtained on the instrument's simplified slide rule.

## Lock Lever a Feature Of Aluminum Barrel Faucet

DESCRIBED as spark-, corrosion- and tamper-proof, an aluminum barrel faucet announced by Foster Aluminum Alloy Products Corp., Forestville, N. Y., features a lock-lever which can be padlocked and, when unlocked, becomes an operating handle. The faucet incorporates a metal-to-metal self-sealing seat, eliminating the need for washers.

Constructed of hard virgin aluminum alloy, the faucet, with or without a threaded spout, has a full opening and is made in ¾" size to fit standard metal




drums or barrels. The faucet is the newest in the Foster line, which includes also self-closing faucets, sure-grip tool handles and C-type screw clamps.

## Trane Model C Circulator Operates Against High Heads

MODEL C hot water circulator, made by Trane Co., LaCrosse, Wis., has been designed to permit the use of smaller piping in the heating system and to operate against higher heads. Interchangeable flanges enable one size circulator to fit two sizes of heating system mains. One basic unit may be used for 1" or 1¼" mains, with a second available for 1½" or 2" service.

The circulators also were designed to operate on both vertical and horizontal

There's a market for SPARK oil heaters NOW! Installation *right now* has special advantages to you and your customers...avoids last minute rush and delays; makes winter comfort certain.

**SPARK HAS NEW MODELS— NEW, LOW PRICES.**

***Write for details***

**SPARK OIL BURNING HEATERS**

*A product of*
SPARK STOVE CO., INC.
OAKLAND 1, CALIF.

SPARK Stove Co., Inc.
2619 E. 12th St., Oakland 1, Calif.

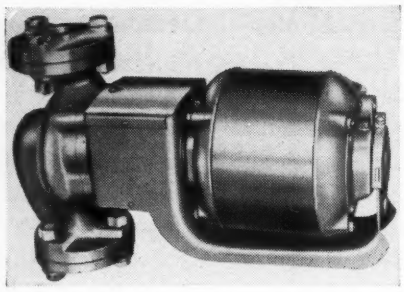
Gentlemen: Please send me complete information on SPARK oil burning heaters and your SPARK dealer plan.

*Name*_____

*Firm*_____

*Address*_____

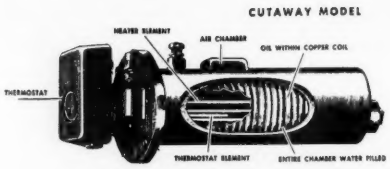
*City*_____ *State*_____



piping. A 90 degree rotation of the pump body is all that is required for the change-over. Trim appearance of the unit is important where it may be installed in exposed locations, and accidental injury is eliminated by completely enclosing all moving parts of the motor and pump.

## Viscos-O-Trol Is Oil Preheater for Heavy Oil Jobs

VISCOS-O-TROL oil preheaters, developed by Superior Engineering Co., Seattle 2, Wash., are available in sizes for use with horizontal rotary or mechanical atomizing oilburners with capacities from 10 to 150 boiler horsepower. The heater consists of a thermostat, which controls oil

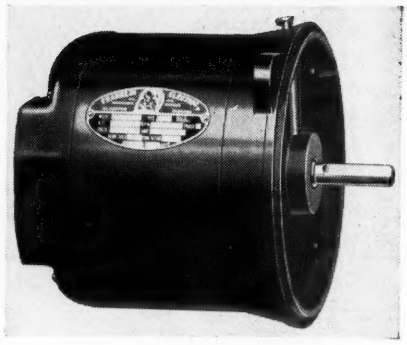



temperatures to within 2 degrees, a heater element, an air chamber, a copper coil through which the oil to be preheated passes and a steel shell. The shell is water filled so that the heater element does not come in direct contact with the oil, designed to prevent heater element burnouts from carbonizing of oil on the element or running out of oil.

The heater accumulates no sludge since there is no settling chamber and with its thermostatic control is described as providing a uniform flow of preheated oil to the atomizing cup.

## Franklin Line of Motors Includes Oilburner Models

INCLUDED in the line of fractional horsepower motors produced by Franklin Electric Co., Inc., Bluffton, Ind., are models for oilburner, blower and water



circulator application. Oilburner models are furnished for flange-mounting, totally enclosed and equipped with oversize bearings for long life. Available in sizes up to ¼ hp in split-phase, with glass-covered starting windings to prevent burnouts, larger ratings can be furnished in capacitor-type.

The motors also are produced in other models. Type S, for example, is a split-phase type motor in sizes of ⅛, 1/6, ¼ and 1/3 hp; a capacitor-type being available in 1/6, ¼, 1/3, ½, ¾ hp ratings at 1725 or 3450 rpm and 1 and 1½ hp at 3450 rpm. Two models, one for horizontal mounting, the other for vertical mounting on motor driven circulators


# NEW OILHEATING BOOKS •

### INSTALLING THE DOMESTIC OILBURNER

This is the first practical guide on oilburner installation. It contains the most significant articles from FUELOIL & OIL HEAT that cover all phases of installation step by step. It is 8½ by 11 inches and contains 64 pages. Illustrated with numerous diagrams, charts and photos.

**$1.**

### LOW PRESSURE BURNERS

Only book other than manufacturers' manuals that gives a full picture of low pressure burner principles of operation and construction—Winkler, Oil-O-Matic, G. E., Hart, Hev-E-Oil. Skeletonized diagram of each make of burner makes them more understandable. The new booklet is 8½ by 11 inches, contains 20 pages.

**$1.**

### OILHEATING SNAGS

This book gives the solutions to many of the Everyday Snags that annoy you in installation and service. We've been working on them for years. They are all simple and practical answers to the most common goat-getters on jobs. It's an 8½ by 11 inch book of 64 pages.

**$1.**

### HEADING OFF TROUBLE IN DOMESTIC OILHEATING

This book contains articles about the most important precautions to take in installations and service and thereby cut down the number of service calls. The selection is about those things which give the greatest amount of future trouble for service men. A highly practical compilation of pieces from FUELOIL & OIL HEAT. It's a 64-page book 8½ by 11 inches.

**$1.**

***Please send check, money order or cash to avoid bookkeeping on the hundreds of small orders we must handle in book sales.***

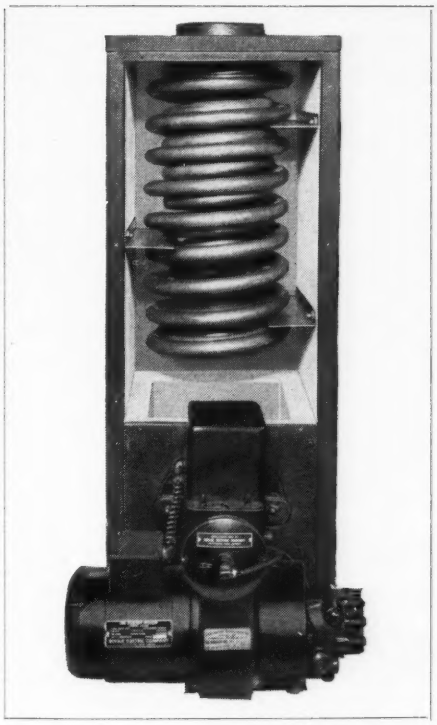
HEATING PUBLISHERS, INC.
232 Madison Ave., New York, 16

complete the types that are available for use in the heating trade. Stock models are furnished for most standard applications, or motors can be engineered for special requirements.

## Hanson-Gates Boiler Unit Redesigned and Improved

THE COMPACT oilfired boiler-burner unit, produced by Hanson-Gates Mfg. Co., Reading, Mass., has been improved and redesigned and can be used either as a boiler to supply heating or domestic hot water supply. Intended and approved for F.H.A. homes, the boiler uses a heating element of 1", three turn extra heavy copper tubing, 54 ft. in length, and develops an output of 81,600 Btu/hr or 320 sq. ft. of standing forced hot water radiation, based on 200 Btu's to the sq. ft. As a water heater, the unit has a recovery rate of 100 gph through a 100 degree rise.

Improved firebox design, thicker firebox floor and thicker jacket insulation are some of the refinements added to this newer model. Outside dimensions of the unit measure 15" x 15" x 43" high, with



1½" of 1900 degree J-M Super X insulation on the sides. A standard high pressure oilburner, with an .85 gph nozzle, fires the unit, which includes a built-in thin-skinned high temperature firebrick combustion chamber.

## Wassell Rota-File Makes Card Records Accessible

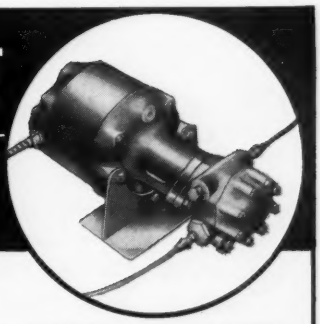
ROTA-FILE, a rotating file on a horizontal plane, flexible enough to meet the needs of an organization with 5,000 items to record on cards or those of larger requirements up to 200,000, has been developed by the Wassell Organization, Westport, Conn. The system, whose diameter is about 5 ft., is adapted for card ledger files of any normal size. One or more operators can be seated around the rotary, and without moving, can bring any card in the file to view within a few seconds. Different types of cards or records may be filed on different tiers.

## Fireye Safeguards for Combination Gas-Oil Burners

THE AVAILABILITY of Fireye flame failure safeguards for industrial gas-oilburner installations has been announced by Combustion Control Corp., Cambridge 42, Mass. With heavy oil as the main fuel and gas as a stand-by, Fireye system FF-2 is used. It consists of a photoelectric scanner to monitor the main oil flame turning off the system in case of


Neat Dealer PROFITS ON FALL AND WINTER CONVERSIONS

HEATERS THAT SMILE AT CATALYTIC OIL



NO TROUBLE SWITCHING FROM DISTILLATE TO "CAT" FUELS

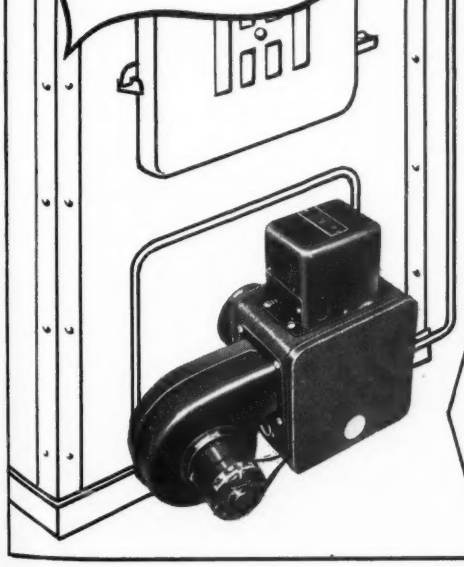
This Unit Burns Them All At Higher Efficiency

FEATURES YOU'LL LIKE

1. Easy to install; $20 saving per job in labor.
2. Burns "Cat" oil efficiently.
3. All efficiencies up 30%.
4. Adjustable on the job.

POWER UNIT MOUNTS ANY POSITION

Power unit will handle several burners. A new principle of zone control.



BURNER "J" TYPE SYSTEM

GET THE DETAILS . . . USE COUPON

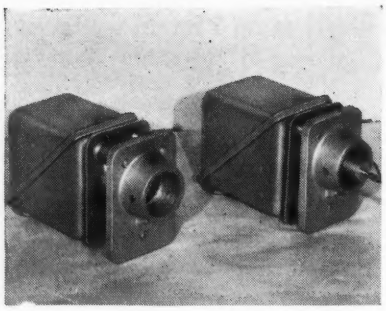
DUALFLAME DIVISION
H & K Appliance Co., Inc.
Lima, Ohio.

Please send us details on "J" Type Zone Control Burners.

Name .....

Address .....

City ..... State .....



flame failure, an electronic rod to monitor the gas pilot flame and a control to start the burner, program the sequence of oil valve delay, post-ignition timing and priming period.

With gas as the main fuel, Fireye system FF-6 is used in a similar fashion.

## Gray & Dudley New Series Of Oilfired Space Heaters

A NEW SERIES of Washington Frugal oilburning circulating space heaters is being marketed by Gray & Dudley Co., Nashville, Tenn., available with maximum heating capacities of 10,000 and 14,000 cu. ft. Each size may be ordered in either red mahogany or modern blonde finish. A companion unit, the

Washington Plymouth, has an approximate heating capacity of 9,000 cu. ft.

The new models are fired with a stainless steel pot-type burner, with three basic heat positions and intermediate steps. Lighting door is in front of the heater and the oil control is waist high. Provision has been made for installation of a fan to force heat across the floor when large areas are being heated and an electric thermostat control also can be furnished. Burner and six gallon fuel tank are removable for cleaning.

## Peerless Threadfast Machine For Pipes and Solid Rounds

A PORTABLE MACHINE for cutting, reaming and threading pipes up to 2" in diameter and threading solid rounds to 1½" in diameter has been announced by Peerless Machine Co., Racine, Wis. The machine permits chucking and unchucking work as the spindle rotates with a new type Roto-Lok wrenchless chuck, which, in effect, is a rapid acting rotary vise, operating with either left or right hand rotation.

Pipe is placed through the rear centering unit and the chuck, centered and locked by turning the hand wheel of the chuck.

## Series 1700 Horizontal or Ceiling Brundage Air-Renewer

A UNIT which can be made part of the return air duct or plenum of a forced warm air furnace and designated the Air-Renewer now is available in series 1700 for horizontal or ceiling mounting from the Brundage Co., Kalamazoo, Mich. Made in two sizes, 1200 and 2400 cfm, the units can be used for right or left hand installation and combine glycol

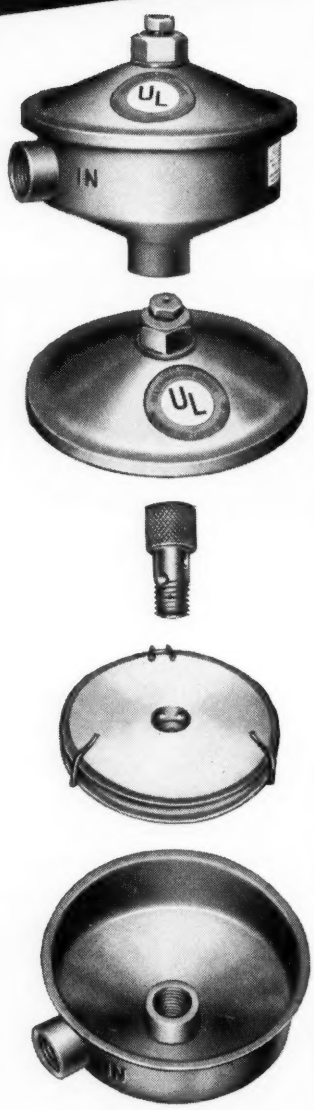

***A sensation in the oil burner field***

**SPARKLER FUEL OIL FILTER...**

***surface type Model OB***

**DISTINCTIVE FEATURES**

1. **A quality filter that will continue to operate under adverse conditions. No sudden stoppage of burner that necessitates night service calls.**
2. **Lint free filtering element is rayon filter paper that positively eliminates the possibility of lint clogging nozzle screens.**
3. **Large filtering area in a minimum space. More filtering surface is provided in a smaller space than possible with deep type filter. One set of filter elements will last an entire season in the average home installation.**

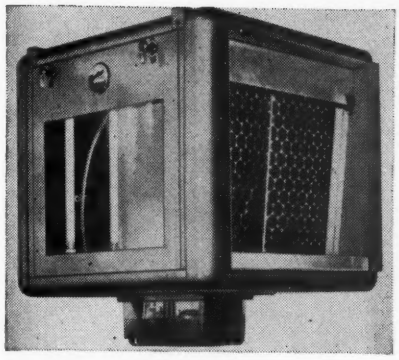



**Surface type filtration as used in the Sparkler Model OB fuel oil filter has been used for many years in industrial filters for the removal of fine microscopic particles of residue. Sparkler surface type filters are used in processing petroleum products such as lubricating oils, heavy diesel oil and other oil stocks.**

**Now for the first time a fine grained surface type filter is available to the fuel oil trade. A filter that will remove all dirt and deposits found in storage tanks and at the same time eliminate the danger of sluffed off fibre particles clogging screens and causing sudden stoppage of burner.**

***Write today for special information about service dealer franchise***

**SPARKLER MANUFACTURING CO. 200 Lake Street, Mundelein, Ill.**



scrubbing with ultra-violet radiation for air cleaning, humidification and sterilization. Heating or cooling coils may be added to these Air-Renewers, which also can be installed in banks of two or more or combined with a central blower installation to condition larger spaces.

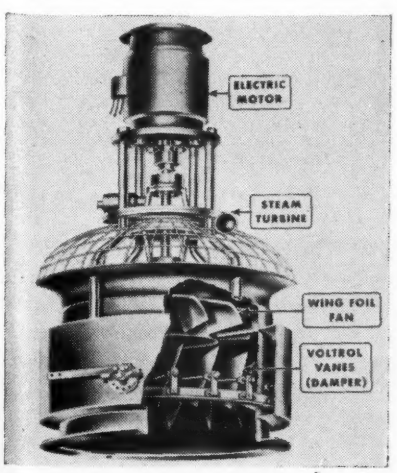
The 1200 cfm unit is equipped with four 15″ germicidal lamps and the 2400 cfm unit with two 36″ Slim Line germicidal lamps. Both models are shipped completely assembled.

## Connor Announces Kno-Draft Air Diffuser and Pendant Light

KNO-DRAFT adjustable air diffusers now are offered in two styles by the W. B. Connor Engineering Corp., New York 16, N. Y., in combination with a pendant light fixture. One type, series K consists of the light and a ceiling air diffuser; the other, series SR, incorporates a supply and return air diffuser. A variety of sizes in both types are available.

## Wing Forced Draft Blower Features Choice of Drives

A FORCED DRAFT BLOWER, announced by L. J. Wing Mfg. Co., New York, N. Y., incorporates a combined electric motor and steam turbine drive, with changeover from one to the other possible at will. The basic unit is a Wing type R turbine blower, with a totally enclosed, dust-proof electric motor connected to an extension of the turbine shaft. The vertical unit, illustrated, may be adapted to horizontal discharge by adding supporting feet.



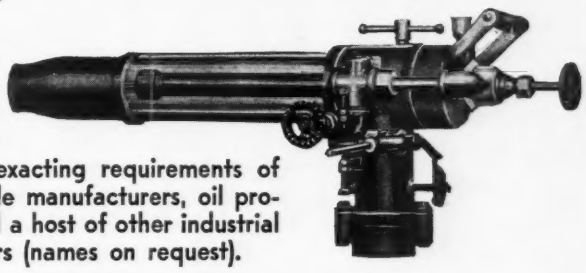

Installation is simplified by shipping the packaged unit assembled and aligned, ready to bolt to foundation. A wide range of control is available with both drives, throttling affording speed control of the turbine and Voltrol vanes permitting capacity regulation for the motor drive. Automatic operation of both drives may be arranged.

## Alstrom Water Heater For Commercial Uses

RESTAURANT TANKLESS water heaters, a product of Alstrom Corp., New York 57, N. Y., feature two domestic water outlets. One furnishes 180 degree water for dishwashing and similar machines,


# SIMPLEX
## THE ANSWER TO TOUGH JOBS

● Alert dealers have long used the SIMPLEX PNEUMATIC TURBINE TYPE OIL BURNER to lick their toughest industrial and commercial installation headaches.



An original SIMPLEX development, this star performer has proven its ability to meet the most exacting requirements of prominent automobile manufacturers, oil producers, bakeries, and a host of other industrial and commercial users (names on request).

**INSTALLATION:** Fits into small space since pump and fan unit can be placed any distance from unit. One pump and fan unit will operate single or multiple burner units. Fully automatic operation.

**SERVICING:** Only one moving part, easily accessible—can be completely replaced by any average mechanic within 5 minutes time. All electric motors are STANDARD STOCK of large motor manufacturers.

**ECONOMY:** Operates efficiently on ANY grade of fuel oil including Bunker C. Preheating system engineered for quick starting even with cold plant.

With the SIMPLEX line of turbine and horizontal rotary type burners, dealers can make ANY industrial, commercial, or domestic installation quickly, easily.

***Write on company letterhead for full details of the pioneer SIMPLEX line.***

SINCE SIMPLEX OIL HEATING CORPORATION SIMPLEX OIL BURNING SYSTEMS HEAT-O-MATIC 1910

**SIMPLEX OIL HEATING CORP.**

**11 PARK PLACE • NEW YORK 7, N. Y.**

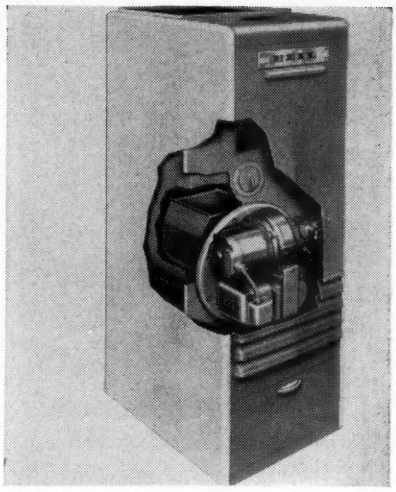
***Domestic, Industrial, and Custom Designed Oil Burning Systems***

the other provides water of 140 degrees for washroom use, both drawn under controlled temperature from the one unit. The heater uses residual boiler reserve for peak loads of 180 degree water and is described also as an ideal hot water heating unit for small apartment and commercial buildings.

The three sizes being offered furnish 12, 27 and 48 gpm peak load draws. Units can be fired with stoker, gas or oilburners. The company is concluding development work on a counterflow residential tankless heater with "Modutherm," explained as a low cost heater with design features that permit reduction of installation costs.

## Heil Highboy Is Fired With Gun or Vaporizing Burner

A NEW HIGHBOY, oilfired furnace-burner unit, announced by Heil Co., Milwaukee 1, Wis., is intended for first floor utility room installation. The compact furnace measures 26½" wide by 32" deep by 64" high and can be furnished with a Heil pressure atomizing burner,

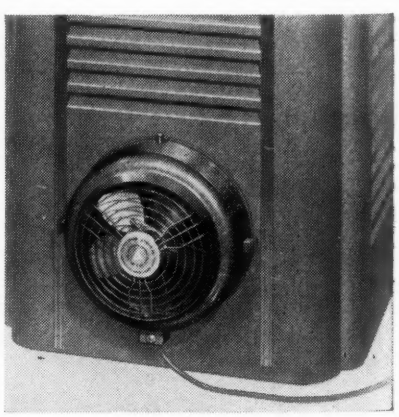


rated at 75,000 Btu/hr, or with a vaporizing burner with a 65,000 Btu/hr output.

A special heat exchanger design and multiple baffles have been built into the unit. Permitting wide flexibility in the location of return air ducts, the Highboy can be operated also with warm air panel heating systems.

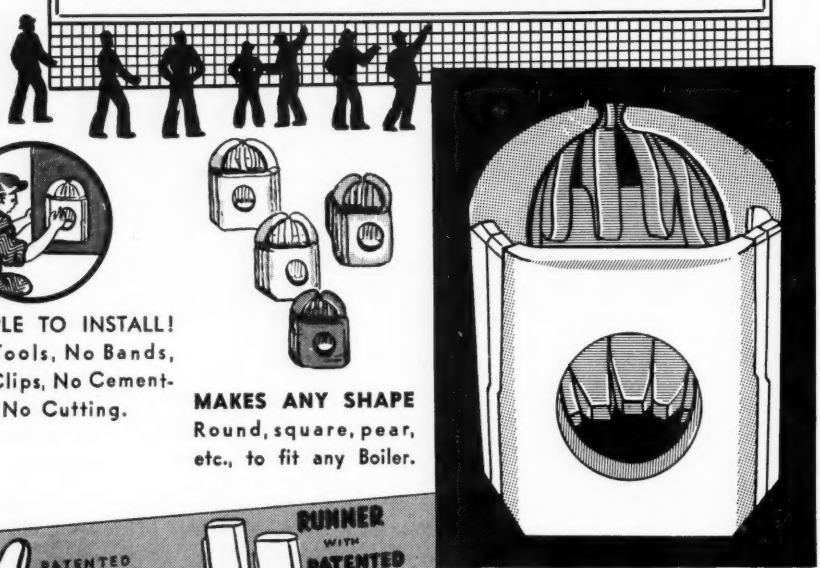
## Branford Model HE-2 Burner With Patented Combustion Head

A NEW MODEL gun type oilburner, announced recently by Malleable Iron Fittings Co., Branford, Conn., is equipped with a patented combustion head, designed to burn efficiently catalytic fuels. Firing rates for the model HE-2 burner range from 1.0 to 1.65 gph and each burner is test-fired before shipment. A



"Snap-On" *blower, designed by Perfection Stove Co., Cleveland, Ohio, for use on the Ivanhoe model 2150 oilburning space heater. During cold weather the blower increases warm air circulation and during the summer it may be used as a floor air circulator. The new blower, finished in brown baked enamel, is designated model 27.*


S.O.S. COMBUSTION CHAMBERS
ARE SOLD UNDER
A MONEY BACK GUARANTEE



SIMPLE TO INSTALL! No Tools, No Bands, No Clips, No Cementing, No Cutting.

MAKES ANY SHAPE Round, square, pear, etc., to fit any Boiler.

PATENTED SLIP-ON INTER-LOCKING BAFFLE

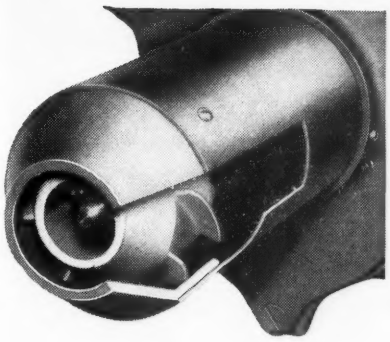
RUNNER WITH PATENTED EASY SLIP-ON INTERLOCKING HINGE

KILN - FIRED Saves Money in FUEL

• QUICKLY INSTALLED •
• INSTANTLY HEATS-UP •
• STANDS-UP FOR YEARS •

AVAILABLE AT YOUR WHOLESALER
If he cannot supply you write
S.O.S. PRODUCTS COMPANY, Inc.
282 - 284 Nassau Avenue
Brooklyn 22, New York

Only S. O. S. Combustion Chambers are cast in the revolutionary patented shapes illustrated here. They are available in hard brick or insulating fire brick.

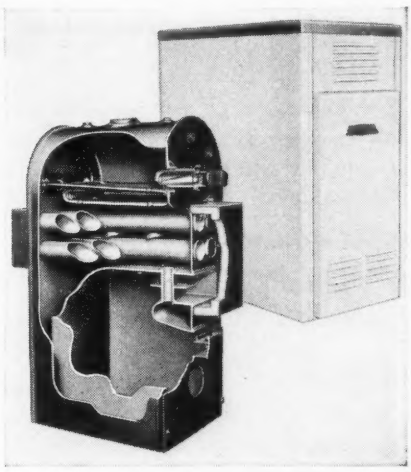


standard feature is a fuel unit with solenoid quick cut-off. Either flange or base mounting is possible.

Also included in the latest Branford models is the model DO series, for larger applications, where firing capacities between 5 and 18 gph are desired.

## Wayne Adds Two Series of Domestic Heating Boilers

A LINE of horizontal ASME construction steel boilers, the WA and WB series, has been added to the equipment made by Wayne Home Equipment Co., Inc., Fort Wayne, Ind. I-B-R ratings range from 320 to 2200 sq. ft. steam, 510 to 3520 sq. ft. of hot water radiation. Either gas or oilfired, the boilers

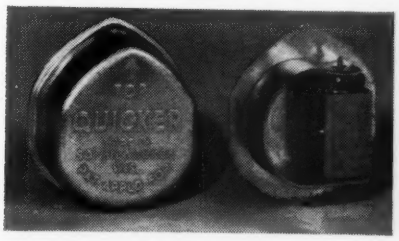


are available with optional hot water coils, 200 to 600 gph capacities at 100 degrees rise with 180 degree boiler water.

Seven of the ten sizes that constitute the line are furnished with optional jackets of furniture steel in white baked enamel, while the three larger sizes are furnished less jacket only. Design features extended water leg percolator tube construction, long flue passes, insulated fire and cleanout covers and low water line.

## Quicker Radiator Vent Valves For One or Two Pipe Systems

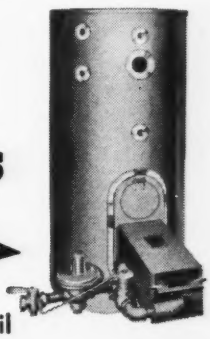
QUICKER HEATING CO., Chicago 6, Ill., anounces the availability of a new steam radiator valve for complete venting and immediate closing when steam reaches the valve. The Quicker valve is equipped




with conventional ⅛" IPS fittings, threaded to fit the radiator vent.

Employing a bi-metal principle, the vent valve seating is accomplished through a floating plastic composition cover against metal. It is recommended that all radiators in a system be equipped with the valves, under which conditions

**See How the Complete ALDRICH Line Meets Customer Requirements . . . Clinches Sales!**



**Convert from oil to gas, gas to oil with identical boiler ratings.**

**domestic heating. It's one of many exclusive features that help you sell.**

**●With Aldrich you meet your customer's exact needs for hot water or steam heat and/or hot water supply. Offer seven sizes of beautifully designed and built boiler-burner units—the 100,000 BTU "Bantam"; six Series "B" Heat-Pak units, rated 118,000 to 808,000 BTU.**

**The oil-to-gas conversion feature of the Series "B" keeps your inventory down and it's a BIG sales clincher in localities where gas may be available later for**

### ALDRICH Oil Burners

**Skillfully engineered, precision-built for economy and trouble-free service. No radio interference from Aldrich-built motors and transformers. Burners flange or base mounted. Model CX: .75 to 2 GPH. Model SAX (shown) with interchangeable draft tubes and air cones: .75 to 4.50 GPH. Model BX: 4 to 8.50 GPH. Model JU Heavy Duty: 7 to 19 GPH.**

**JOBBERS—You'll make more money with Aldrich—write for facts.**
**DEALERS—Write or wire for name of nearest jobber.**

**ALDRICH**

ALDRICH HEAT-PAK PRODUCTS

**ALDRICH COMPANY**
*a subsidiary of Breeze Corporations, Inc.*
103 E. Williams St., Wyoming, Ill.
ONE OF THE BREEZE MARK PRODUCTS

The Popular New
**ALDRICH 'Bantam'**
**. . . for modern, low-cost homes**

**This outstanding boiler-burner unit, designed especially for the modern 4 to 5 room home, stands only 45" high, occupies 20"x33" of floor space. It can be adapted to steam, hot water, or radiant heating systems, and provides domestic hot water in excess of FHA requirements. Models also available for hot water supply only.**

# The Great NEW CARLIN "400"

Carlin's great new "400" is going over BIG. It's the quality oil burner that squarely meets the demand of today's vast home market. Dealers' words, better than ours, best describe it. A dealer in Connecticut says, "Never seen a burner that could touch it." Up from New Jersey comes this tribute "The finest burner we have ever used regardless of price." From New York State, "It's terrific!" You, too, will be convinced when you compare this great oil burner with anything else at anywhere near its modest price.

*TEAM UP WITH...*

Carlin OIL BURNERS

US OIL BURNERS

for New Opportunities

THE CARLIN COMPANY
BOX 32, WETHERSFIELD, CONNECTICUT


the heating system is said to operate satisfactorily on steam pressures of 1 lb.

## McDonnell & Miller "Make-Up" Water Feeders in Two Models

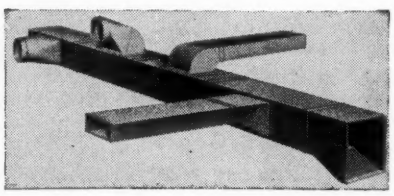
TWO MODELS, No. 21 and 121 make-up water feeders, have been announced by McDonnell & Miller, Inc., Chicago 11, Ill., designed for use on receiving tanks of boiler return systems. Featured are

straight-thrust cam-and-roller valve action for tight closure against water supply pressure up to 150 lbs. psi, stainless steel valve and seat, large integral strainer and flange mounting, available in three patterns. All use the same templates and fixtures as are commonly used on float switches.

The primary use of the water feeder will be in combination with the McDonnell pump control. This is a float switch located on the boiler for starting and stopping the condensation pump to maintain proper boiler level.

## Lamneck Simplenic Ducts Being Made of Galvanized Iron

SIMPLENIC prefabricated ducts and fittings, made by Clayton & Lambert Mfg. Co., Louisville, Ky., now are being fabricated from galvanized iron, where aluminum once was used during metal shortages. The system is offered as ideal for residential forced air heating because of its ease of installation and simplicity of design, with consequent savings in




CASH IN ON SALES OF *Klemm* FUEL OIL FILTERS NOW!

***Sells Fast . . .***
***Market Unlimited . . .***
***Good Markup . . . Repeats***

You, more than anyone else, have an inside track to get extra income from the sale of Klemm Oil Filters. You know *who* gets oil, *how* they use it, and *which* oil-fired utilities *need* a Klemm filter. You can sell Klemm Oil Filters easily . . . and make a good profit on every sale. What's more, you'll get extra business too from the sale of Chemistone filter elements.

Model 430 G

Klemm Oil Filters remove all water, dirt, sediment, rust, and all foreign matter from fuel oil . . . help make customers happy with the oil you sell. Metal bowl units listed Underwriters' Laboratories. All sizes available for every filtering need.

*ORDER A SUPPLY FROM YOUR JOBBER TODAY*

**SHOWS . . .**
**TELLS . . .**
**SELLS . . .**

Klemm JR model oil filters are packed 12 to a display carton to help you show, tell and sell their merits easier.

ATTRACTIVE DISCOUNTS TO JOBBERS AND DISTRIBUTORS. WRITE FOR FULL DETAILS TODAY.

*Klemm*
AUTOMOTIVE PRODUCTS CO.
1718 N. Damen Ave., Chicago 47, Ill.

material and installation costs. The line is complete, including sizes ranging from 4 x 8 to 44 x 8 ins. in 16", 32" and 64" lengths. In addition, a variety of plenum chambers, reducer and increaser sections, branch connections, takeoffs, stack heads, register boxes and similar fittings are available as standard equipment.

Catalog No. L-49 covers the entire line of prefabricated items and includes complete information on sizing.

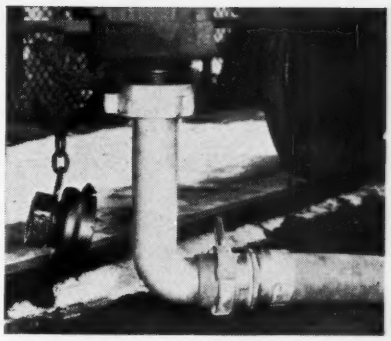
## New Twist Pliers for General Purpose and Production Uses

NEW TWIST PLIERS, hand tool offered by Industrial Products Co., Philadelphia 33, Pa., feature flexible jaws that can be shifted to various angles within a radius of 110 degrees, usable in all positions. The pliers measure 10¾" long, have jaws and handles of heat-treated chrome molybdenum steel, rubber handles and serrated jaws to hold securely. They are described as practical for holding assembly parts, positioning or holding nails and screws, pulling or placing cotter pins and similar uses in tight places.

## Majestic Furnace Unit with Drawer Type Burner Assembly

MODEL UF-26, packaged utility furnace announced recently by the Majestic Co., Huntington, Ind., requires a floor space of only 26" square and has a bonnet output rating of 100,000 Btu/hr. It features a drawer type burner assembly, permitting installation of gas or oilburner, is factory assembled and may be fired with a vaporizing oilburner made by Majestic, a pressure type or burners for natural, artificial or L.P. gas.

Designed for use with the conventional type of up-flow air circulating heating system, the units are adaptable also to perimeter type heating, requiring down flow air circulation. Other features include suspended type blowers, cold air return at either side or bottom, large combustion chamber and over-sized secondary heat transfer unit.



## Mead & Cornell Tank Car Fitting is Hand-Operated

A TANK CAR UNLOADING FITTING, that weighs less than 10 lbs. and whose collar may be tightened by hand, has been announced by Mead & Cornell Co., Cleve-


# LOWER PRICES FOR R & I "2 in 1" Chamber

**Because of new, streamlined packages you can now buy R & I Combustion Chambers at much lower prices.**

**Chambers are precast of medium-weight, high temperature refractories which have service limits far beyond temperatures encountered in modern oil burners.**

**Called the "2 in 1" Chamber because:**

1. **Quick Heating is produced by thousands of tiny projections inside Chamber which attains glowing radiance the moment the burner switches "on."**
2. **Medium Heat Storage—R & I Combustion Chamber gradually gives up stored heat after the flame shuts "off," providing efficient, smoke-free fire box.**

**Your supply house has R & I Combustion Chambers. Write us for new informative booklet OB-101 which gives valuable information for dealers and installers.**

**REFRACTORY & INSULATION CORP.**

**116 WALL ST., NEW YORK 5, N. Y.**

**Chicago 4, Ill., Newark 2, N. J., Philadelphia 2, Pa.**

R&I COMBUSTION CHAMBER

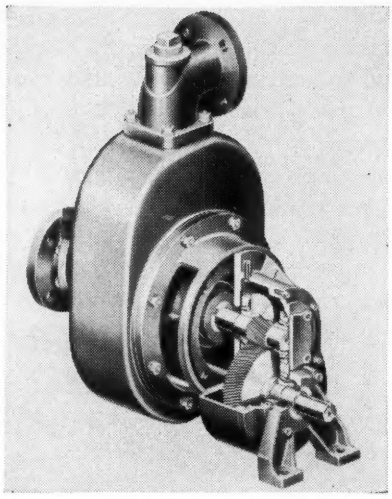
land 7, Ohio. It is a universal fitting, made from cast aluminum, and is available in lengths of 10" and 15½".

The standard tank car fitting is made with a 3" outlet pipe thread, also available with a 4" outlet pipe, if desired. Standard reduction fittings may be added. The collar of the fitting is undercut so that tightening by hand locks an oil-proof gasket in place.

### Type G Series of Marlow Power Take-Off Truck Pumps

A SERIES of power take-off tank truck pumps, developed by Marlow Pumps, Ridgewood, N. J., is manufactured in 2" and 3" sizes, high and low pressures, flanged or threaded connections, with capacities extending from 20 to 200 gpm. Designed especially for petroleum tank truck application, construction incorporates a built-in gear increaser, direct-coupled to the power take-off. The gear unit and discharge tee of the pump may be installed in any one of four 90 degree positions.

Type G series features free-flow design, a self-compensating shaft seal and



self-priming centrifugal operation. They contain no auxiliary priming devices and are described as virtually maintenance-free because their operation does not depend on close tolerances.

### Simeon Combi-Matic Burner Is For Oil or Gas Firing

COMBI-MATIC burner, produced by Simeon & Co., Kansas City 8, Mo., was designed initially as a gas burning attachment to add to an existing gun type oilburner installation. It now is offered as a combination unit, with the gas burner installed underneath the gun tube of the oilburner. The stainless steel gas burner fits in front of a standard combustion chamber.

The combination includes an automatically controlled damper that closes when oil is being burned and opens when gas is used. The oilburner is used on the initial start of each firing period. After starting the oilburner and firing it until stack temperatures are raised, the gas valve opens. As soon as gas pressure is established a pressure control breaks the circuit to the oilburner. The control will not open until proper gas pressure has been attained so that the oilburner continues to fire in the event of gas failure or low gas pressure.

◈

*Adrian O'Donnell* has been named vice president, American Ice Co., New York, N. Y., succeeding John H. G. Pell, resigned. Mr. O'Donnell for the past five years has directed New York fuel operations and now will be in charge of all fuel operations.


**Dealers everywhere say**
**GENERAL AUTOMATIC**
**CHECKS BEST**
**BY TEST for every kind of OIL HEAT.**

Warm Air Conditioners

✓ **FLOORLEVEL *Baseboard***
A complete Hot Water package. No radiators. Easy to sell, store and install. Get Spec. No. 56.

✓ **CONVERSION**
1 to 20 gal. capacity. Domestic and Industrial.

✓ **BOILER-BURNERS**
Our All Steel Boiler-Burner T-Series is famous for fuel saving, beauty and long life.

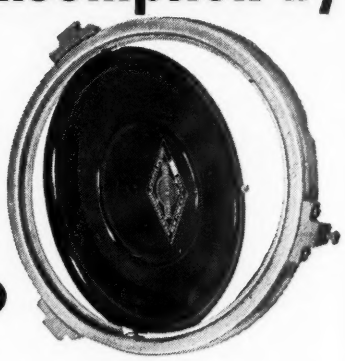
Conversion Burners

✓ **WARM AIR**
Highboy & Lowboy units, 85,000 to 200,000 B.T.U., complete with burner.

GENERAL Automatic
EST. 1924
GENERAL OIL BURNER CORP.
2300 Sinclair Lane, Baltimore 13, Md.

Oil Fired Boilers

**PREFERRED**
**DRAFT-A-JUSTORS**
**Cut Fuel Consumption by**
**10% TO 30%**



The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES
Store, domestic and commercial sizes from 4" to 24" in diameter.
Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.
1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

# Everyday Snags

## Burning Out Soot

Before you try to do a thorough job of burning out soot using chemicals, bring up the temperature of the furnace or boiler. It helps to run the burner of a forced-circulation warm air system while you keep the circulating blower idle.

Where this can be done easily because the burner is a type and size that permits it, run the burner with about double its usual size fire for 15 minutes before you burn out the soot. You might have to give the flame air by keeping open the firing door.

On pressure burner jobs, toss crumbled half-sheets of newspaper into the firebox one at a time before you start burning out soot, in effect increasing the firing rate and causing flames to whip through the flue passages. Use your soot-burning chemical, then burn some more crumpled paper.

Be cautious! Don't start a chimney fire or set on fire a beam that wrongly is close to the flue of the chimney. Don't start a fire by getting a smokepipe red-hot and setting nearby beams afire. Go outside the house and make certain that you are not setting the house, or a neighbor's house, afire with sparks from the chimney. Make certain you know ahead of time just what to do if you do start a chimney fire or get into some other kind of trouble!

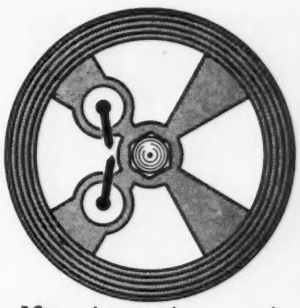
* * *

## Ending Lopsided Firing

You can bend the nozzle line of a certain pressure burner to offset its tendency to give a flame that's heavy on the lefthand side of the firebox, says a service manager. Even though the lopsided fire gives a good $CO_2$ reading, it looks bad to a fussy home owner. Fastidious service men don't like cockeyed fires either.

You bend the nozzle line right in back of the nozzle adapter and you bend it just enough. The trouble with this old cure for lopsided fires is you are likely to bend the line too much or not enough.

*Remedy for crooked fire*



*Put electrodes at side of nozzle*

Because the electrode assemblies and holders block the flow of air in the gun tube, the gun tube assembly can be turned, this service manager found out, so that the flow of air is blocked on one side of the gun tube. Once you find out which way to turn the gun assembly, and how much of a turn is needed, with this particular burner you are through using the hit-and-miss, time-taking method of

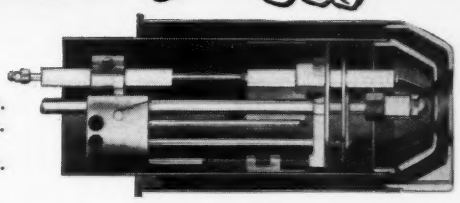

HERE'S A CONVERSION PLAN THAT...

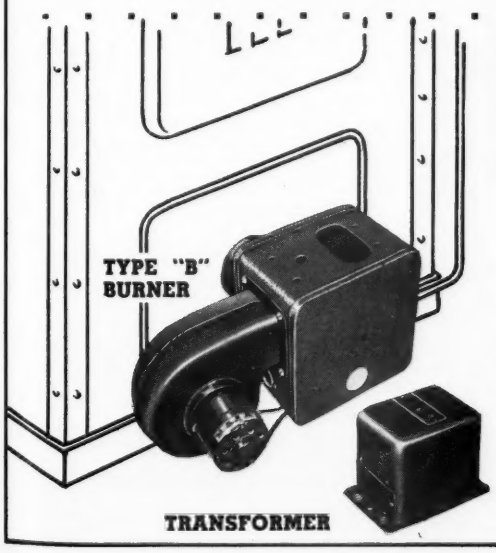
★ MAKES YOU MONEY
★ SAVES FOR THE CUSTOMER
★ KEEPS HIM HAPPY

SYNCHRONIZER FIRING HEAD
(Type A)

All adjustments on the pressure side. Set it and forget it. No pulsating. Completely purges. Highly turbulent flame completely fills refractory.

**BURNS CATALYTIC OIL** or hot distillate with increased efficiencies.






SAVE AND USE VALUABLE COMPONENTS OF SYSTEM BEING REPLACED

Here's How It Works

1. Remove old burner. Install the DUAL-FLAME Type B consisting of SYNCHRONIZER firing head and plenum chamber.
2. Install transformer from system being replaced on the Type B burner.
3. Utilize the old burner as power system.

GET DETAILS — USE COUPON

DUALFLAME DIVISION
H & K Appliance Co., Inc.
Lima, Ohio.

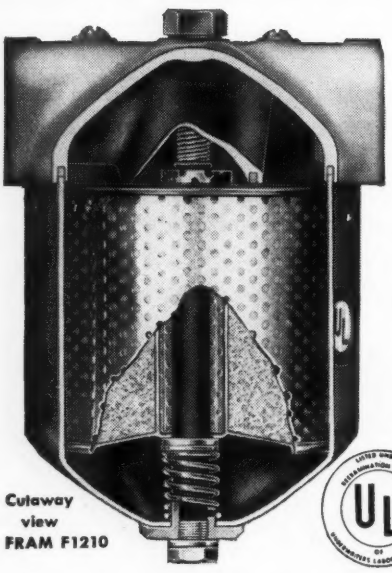
Please send us details on Types "A" and "B" conversion burners..

Name .....

Address .....

City ..... State .....

NEW
FRAM
FUEL OIL
FILTERS
Cut Service Calls
Build Satisfaction
Make Repeat Profits



Cutaway view FRAM F1210

UL

*Filters the oil clean through an entirely new development • Removes dirt, rust, scale, water • Assures steady flow of clean oil to the burner • Protects pump valves and nozzles • Reduces service expense and needless, troublesome calls • Easy to install • Replacement cartridge builds repeat profits • Available in capacities of 2000, 4000, 6000 gallons of oil consumed per year.*

**FRAM CORPORATION**
Providence 16, R. I.

*Headquarters for*

FRAM
OIL · AIR · FUEL
FILTERS

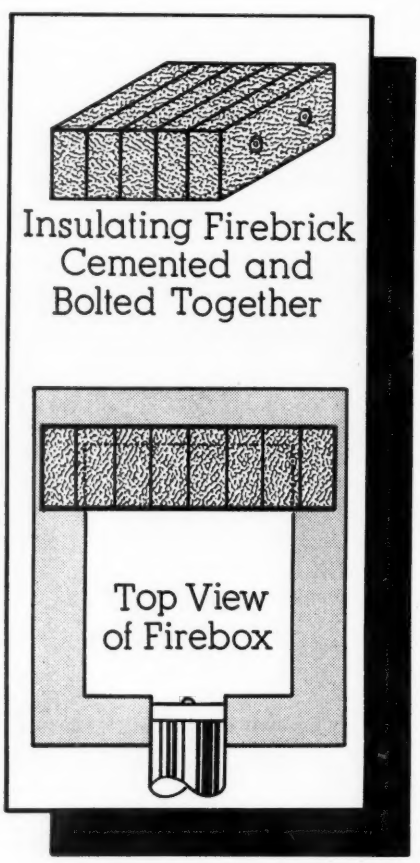

bending the nozzle line to get a straight flame. The spark tips provide proper ignition at either side of the nozzle, of course, as well as above the nozzle. Just don't locate them under the nozzle where oil dripping from the nozzle after the burner stops may strike them and form carbon.

* * *

### Trick With Firebrick

An oilburner specialist who has kept light-weight insulating firebrick on hand for years reports that only recently did it dawn on him to take advantage of the fact that, using metal or wood drills, holes can be drilled easily in such brick.

Now, when he wants to add a front or rear arch or corbel to a firebox, he writes, he makes up a large slab by cementing and bolting together a number of insulating firebrick. The bolt holes are easily drilled in the brick. As bolts, he uses either cold-rolled solid steel rods threaded at each end, or 1/8" steel pipe. He uses standard pipe thread since he has on hand the die for this. The nuts and washers can be engineered to be located at cool places, for example close to the relatively cool walls of a boiler, or can be in recesses in the firebrick which are filled with refractory cement after a socket wrench is used to tighten the nuts.

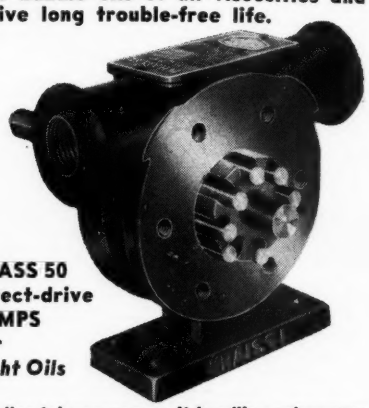



To avoid breaking the brick through expansion when they are heated, this dealer tightens the nuts only moderately after the brick are cemented together. Also, he has been experimenting with adding a bit of asbestos cement to the refractory cement used between the brick, to obtain "give" for expansion the first time the slab comes to red heat.

The idea provides easily and quickly installed corbels which overhang as much as 7" and which, unlike ordinary cor-

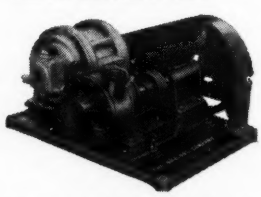

KRAISSL
FUEL OIL PUMPS

**Compact, lightweight pumps that operate at wide ranges of speed—to handle oils of all viscosities and give long trouble-free life.**



**CLASS 50 Direct-drive PUMPS for Light Oils**

**Roller tolerances permit handling extraneous matter that would jam other mechanisms. Good suction characteristics. Capacities 60-600 GPH; pressures to 100 psi.**
***Ask for Bulletin A-1330***



**CLASS 60 Reduction-drive PUMPS for Heavy Oils**

**Time-tested Kraissl design for direct burner supply—or as booster pump. The pump that will pull heavy oil when it is cold. Capacities, 75-1800 GPH; pressures to 100 psi.**
***Ask for Bulletin A-1193***

KRAISSL CO., INC.
295 Williams Ave., Hackensack, N. J.
Please send me bulletin A-1330 and/or bulletin A-1193 . . . with full information and specifications on Kraissl Fuel Oil Pumps.

Name_____
Name of Company_____
Title_____
Address_____
City_____ State_____

KRAISSL THE KRAISSL COMPANY Inc.
HACKENSACK, N. J.

bels, have no tendency to fall down.

"Make the side walls of an ordinary firebox about 6" higher using light brick," says the dealer, "and add a 7" lip or corbel on the back, and usually you get quieter, cleaner burning, $CO_2$ higher by 2% or so, and fuel bills reduced by at least 10%."

* * *

### Use Waste-Water Heat

Where large amounts of hot water are used and at the same time considerable hot water is wasted down a drain, as in a laundry, hotel, or institution, often great savings in water-heating costs can be gained by picking up the heat in the waste water. The warm waste water may run through an arrangement similar to a tankless water heater, if an instantaneous basis is used, and the water heated by the tankless coil may flow to the regular hot water tanks or regular tankless heater. In some instances the gain is greater if a preheat tank is used; even while no hot water is being drawn, an arrangement similar to a tank-type indirect water heater continues to chill the waste water and to give heat to a preheat tank.

Another fuel-saving wrinkle is to use heat from large water-cooled refrigerating equipment to raise the temperature of a preheat tank connected to the water heating system. Proper engineering can reduce the load on the refrigerating equipment by lowering its head pressure, whereas doing this without using the waste heat would not be economical.

The owner of a hotel, realizing much fuel was being used to provide great amounts of hot water for the kitchen and bar room, first planned on putting an old 100-gallon tank in his hot boiler room, figuring that this would increase his well water temperature from about 50° to 100° or 110° at no cost. Mulling over the plan for some weeks, he wound up with the tank mounted high and horizontally in the boiler room, connected to lines running downwards to a set of copper tubes located inside the smokepipe of the heating boiler. He is taking temperature readings now of the boiler room and the tank to try to find out if heat will be gained or wasted by insulating the tank. If the tank usually is hotter than the air in the boiler room, he figures, he will gain by insulating the tank and making it still hotter. But then, he points out ruefully, he will have to install another tank in the boiler room, this one not connected to lines in the smokepipe, to pick up some of the no-cost boiler room heat he set out in the first place to obtain.

* * *

### Single Phase Motors

Here are the general impressions of one small-motor expert.

A repulsion-induction motor has two


CUT FUEL COST NOW

PATENTED

WITH THE NEW TRU-HEET OIL BURNER

*Your Answer To*

CATALYTIC OIL PROBLEMS

*Also*

Many Other New Features

- $CO_2$ high as 15%—no smoke
- Fuel savings high as 30% and over
- Oil rate 0.50 to 10.00 G.P.H.
- Thousands of proven installations, since 1945

Also Boiler & Warm Air Units

*Direct your inquiries to*

TRU-HEET COMPANY
542 MILLER AVE.
TRENTON 10, N. J.

*Manufacturers of Fine Oil Burners Since 1928.*



NEW FILLING Z-I-P

WITHOUT A DRIP

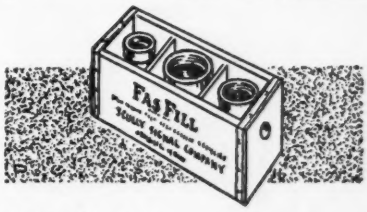
Simple hand-tight connection between Gun and Fill Pipe

$13.50 F.O.B. Factory

FASFILL saves time and money at every drop. Smoother, faster filling, yet never a blowback or fill drip. And FASFILL couldn't be easier to use. Every needed connection is at the driver's fingertips when he wants it. Easy hand turn puts it in place.

No buildups necessary. No tools involved. No matter if fill pipe threads are worn. Diaphragm and sealing point gaskets eliminate need for tightly threaded connecting joints.

Just shove gun nozzle through opening of flexible diaphragm in FASFILL head and let 'er go. Casing wall holds gun in position.




Light weight 3-compartment box carries ALL connections needed for making up to 1¼", 1½" or 2" male or female fill pipe.

SCULLY SIGNAL COMPANY
76 First Street
CAMBRIDGE 41, MASS.

FASFILL®

to three times the starting ability (torque to turn over a heavy starting load) as a split phase motor, and may use three times as much current for starting as for running under its full load.

A capacitor-start motor has twice the starting ability of a split phase motor, and uses three times as much current for starting as for carrying its full load.

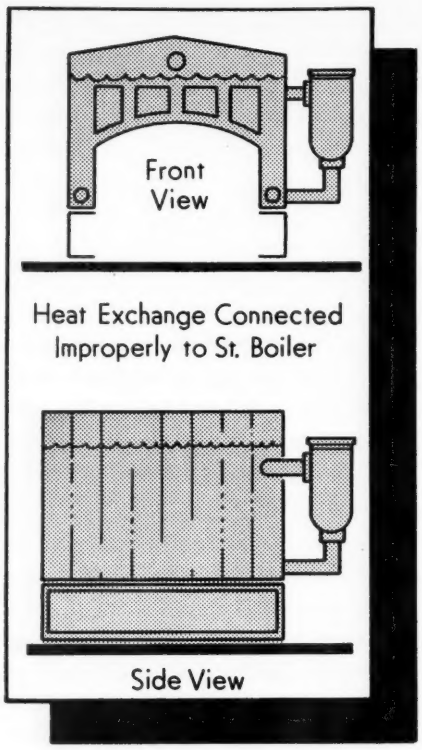
A split phase motor can develop twice its normal (or rated) horsepower for starting, and may draw four to six times as much electricity for starting as for carrying its full load.

The expert cautions that particular makes and models of motors may be exceptions. It's possible, for example, to make a split phase motor of 1/6 hp size that has only a fraction of the starting ability usually found in such a motor. He's seen this done.

* * *

### Cools One Section

He didn't know before that this could be done, but he kept one section of a rectangular steam boiler stone cold, this heating contractor reports, even while all the other sections were giving steam.




Heating a garage building with apartments upstairs, the steam boiler had extra capacity, so the heating man decided to hook to it a forced-circulation hot water system to heat an apartment being added to the building. The coil of a heat exchanger (in effect a large indirect water heater suitable for this application) was connected to the new radiators. The water-filled jacket of the heat exchanger was connected to the back section of the eight-section steam boiler. The old boiler had small connecting nipples at the tops of the sections, not the large nipples, half-filled with water, used in many modern boilers.

With the oilburner and new circulator both running continuously for two hours, the boiler generated steam pressure but the back section and the radiators stayed cold. Studying the job and finding his error, the contractor corrected it by connecting the jacket of the heat exchanger to sections 2, 3, and 4 of the boiler (counting from the front) as well as to the back section. Sections 2, 3, and 4 seemed to receive more radiant heat from the fire than the other sections.


From tank to oil burner...
ACCESSORIES by Buckeye

As one of the foremost names in the oil industry, "Buckeye" on your equipment signifies the ability of the equipment to *do* the job it was made to do . . . and to do it efficiently, economically and with a minimum of maintenance. These fittings, like the rest of the Buckeye complete line, live up to this reputation.

**No. 4061 Angle Shut-off Valve**
Needed on every line for emergency. Full capacity when wide open.

**No. 4060 Globe Strainer**
Sturdily and carefully made to clean oil before it enters the burner. Easily cleaned.

**No. 4012 Angle Strainer**
Widely used to eliminate impurities in the oil as it goes into the burner. Easily cleaned.

**No. 4062 Globe Shut-off Valve**
To close line for burner repair or replacement. Built for long life.

**No. 79 and No. 444 Swing Check Valves**
Disc lifts out of line of flow while pump operates.

*Buckeye also manufactures Fill Caps, Fill Boxes, Sludge Pumps, Vents, Foot Valves and Bushings.*

**BUCKEYE IRON & BRASS WORKS, Dept. F**
**P. O. Box 883, Dayton 1, Ohio**



SOMETHING REALLY NEW!

*For Measuring*

- Filter Resistance
- Air Velocity
- Furnace Draft
- Fans & Blowers
- Gas & Static Pressures

*DWYER Bulletin 250 gives you full details. Write for it!*

THIS IS REALLY IT . . . a pressure gage that's compact, long lasting, and highly accurate — with no bearings or links to wear out!

DWYER Magnehelic Gages, featuring a helical magnetic linkage, are sensitive to ¼ of one thousandth of an inch magnet movement. Give you Plus, Minus and Differential readings . . . cannot be damaged by over or under pressures high as 5 lbs. PSI. Portable and stationary models, with ranges from 0-½" of water up to 0-12" of water.

**F. W. Dwyer Mfg. Co.**
**315 SOUTH WESTERN AVENUE, CHICAGO 12, ILLINOIS**

# *Industry Groups*

*Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.*

## St. Louis Group Contest Says "Oil Is Worry-Free Heat . . . "

PRIZES TOTALING $1,000 were offered 34 winners of a contest sponsored by the Oil Heat Institute of St. Louis, Fuel Division, which closed September 30. Contestants completed the sentence in 25 words or less, "Oil is the worry-free heat because—." First prize was $500; second prize $150; third price $75, followed by 31 other cash awards.

The contest was promoted during September in the St. Louis *Post-Dispatch* and *Star-Times*, as well as on radio stations KMOX, KXOK, KSD and WIL. Members of the OHI chapter circularized their customers sending reprints and pointing out that they, who personally have experienced the benefits of Oil Heat, have a good chance to win. All

YOU CAN USE THIS HANDY BLANK TO ENTER
Complete this sentence in 25 words or less . . . "Oil is the worry-free heat because,
NAME
ADDRESS
MAIL YOUR ENTRY TO "OIL-HEAT, BOX 601, ST. LOUIS, MO."

OHI employees were kept posted on the campaign by mailings to their homes. Heating contractors received a different type of mail cultivation, as did real estate firms. Bumper strips also were used to publicize the contest.

Newspaper copy suggested, "Oil Heating is safe. Oil heat gives you freedom from worry—oil cannot be accidently ignited—is non-toxic. Oil heating is low cost. The trend of oil prices is definitely down. Oil has always been the 100% automatic low cost fuel. Oil Heating is clean. Oil is completely converted into heat. No fumes to worry about. No waste."

The contest period will be followed by a continued effort plugging the major theme, "Oil—the worry-free heat," according to Oakleigh R. French & Associates, advertising agency who handled the campaign. The advertising campaign contemplates an expenditure of $25,000 between August 1 of this year and July 1, 1950. About $16,000 of the fund will be consumed prior to December 1, with the balance spread through the duration of the program. October and November advertisements are featuring the worry-free slogan and each individual insertion develops a particular advantage of oil heat as its central theme.


He'll be a

BETTER SERVICEMAN

for Reading

BETTER OILHEATING

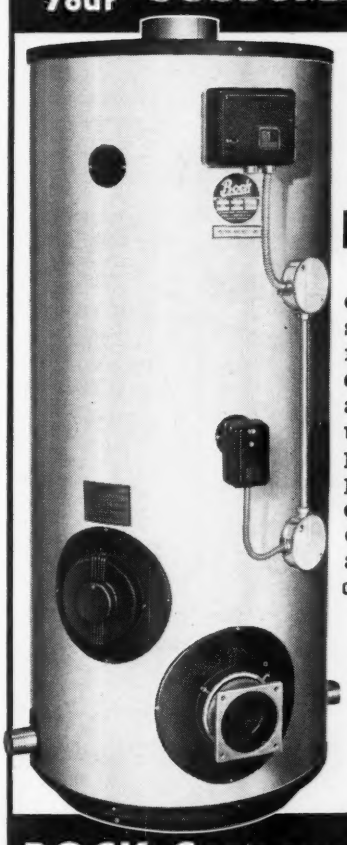
This new, enlarged edition is a practical book for servicemen to read at least once and also makes a good reference source for service problems. It's a compilation of articles thoughtfully selected from Fueloil & Oil Heat.

Bound in heavy paper covers. 8-1/2 by 11. There are 110 pages & nearly 140 illustrations as well as numbers of tables & short service hints. **$2**

*Please send check with order to make it unnecessary for us to bother you with a billing.*

**HEATING PUBLISHERS, Inc.**
232 Madison Avenue New York 16, N. Y.

Make Your CUSTOMERS HAPPY



INSTALL Bock HOT WATER SERVICE

Bock Water Heaters come in three popular sizes. A 30 gal. model for domestic use. A medium sized model for apartments and a large unit for heavy duty application. They are supplied with or without the oil burner. Come with electric wiring in place and with a removable combustion chamber.

★ *Reliability*
★ *Satisfaction*
★ *Repeat Sales*

Water Heater Headquarters

BOCK Corporation, Madison, Wisconsin

## North Carolina Oil Jobbers Hold Two-Day Fall Meeting

A TWO-DAY FALL CONVENTION, sponsored by the North Carolina Oil Jobbers Association, Raleigh, N. C., was held September 6 and 7 at the Royal Palm Hotel, Carolina Beach, N. C. The first day's activities included a luncheon, closed meetings of jobbers, consignees and agents and a combined round table discussion with officials of the Gasoline & Oil Inspection Division. A social hour and banquet occupied the evening hours.

The program on September 7 was confined to a morning meeting at which Robert Gray, business manager, FUEL-OIL & OIL HEAT, was speaker. A question and answers forum followed his talk, "Fueloil Expedients," which is reproduced elsewhere in this issue.

## IOMA Entertains At Annual Pre-Season Party

A FALL ROUND-UP PARTY, sponsored by the Independent Oil Men's Association of New England, Boston, was held on October 5 at the Hotel Statler, Boston. A cocktail hour preceded the dinner, both of which were arranged for informality and conviviality. "Tank Wagon Tattle" was the highlight of the evening, conducted by Roy G. Howells, whose specialty turns facts into foolishness and fun.

## Washington, D. C. OHI Approves Advertising Program

A SERIES of twelve 600 line advertisements to appear eight weeks in the *Washington Star* and four weeks in the *Times-Herald* has been started by members of the Oil-Heat Institute of Greater Washington, Washington 5, D. C. The first insertion in the *Star* was placed on September 18 and advertisements will appear on September 27, October 11 and 23, November 7, 15, 20 and 29. The campaign in the *Times-Herald* began on September 21 and includes subsequent insertions on October 4 and 17, and November 1.

The cost of the program has been underwritten by members of the chapter, and all members have been urged to tie in their own individual campaigns. The Board of Directors recommended the advertising at a special membership meeting held August 29 at the Burlington Hotel. At the meeting, W. O. Speiss, national secretary, Distribution Division, Oil-Heat Institute of America, Inc., New York 16, N. Y., presented the advertising plan developed by the national organization for use by local associations to stimulate sales and combat gas competition.

## Local Industry Meetings Held by New England OHI

A SERIES of regional area meetings have been held throughout its territory by the Oil-Heat Institute of New England, Boston 15, Mass. The first meeting was conducted at Providence on September 19, with others following at Worcester, Springfield, Hartford, New Haven, Portland, Manchester, Lawrence, Salem and the final session at Fall River on October 7.

All members of the oilheating industry participated in the gatherings, which were run by a group of officers and di-


DELAVAN..

SLUDGE SOLVENT

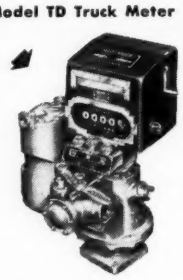
A REAL MONEY-MAKER

**A new, sure way to solve sludge problems for your customers—and make an extra profit in the bargain. Sell Delavan Sludge Solvent to every oil burner owner—on our Money-Back Guarantee that it will eliminate sludge and soot.**

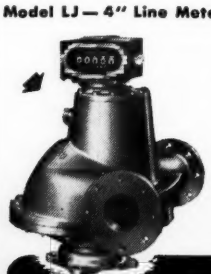
DELAVAN MANUFACTURING CO.

3009 SIXTH AVE., DES MOINES 13, IOWA

Model TD Truck Meter



Model LJ—4" Line Meter



GRANCO fast flow meters speed truck or bulk plant delivery

GRANCO Meters cut overhead, enable your tank trucks to make more "dumps" per day. How? Because they have . . .

- ★ faster flow — extra large metering chamber allows for greater through-put to each revolution of rotor.
- ★ lower head loss — smooth, pivot action of exclusive GRANCO "floating" rotor offers minimum resistance to flow.
- ★ sustained accuracy — over wide range of flow.
- ★ longer trouble-free life — slower mechanical speeds, fewer moving parts mean less wear . . . long, continuous service.
- ★ Quick, accurate calibration—only rotary meter with easy, positive adjustment.

BUY GRANCO METERS—YOU'LL BE MONEY AHEAD!
Write today for Free Bulletins

GRANBERG CORPORATION Granco

OAKLAND 8, CALIFORNIA ★ Makers of Rotary Positive Displacement Pumps and Meters for all Petroleum Products

Sales and Service at your service throughout the nation

rectors of the association. The purpose of the program was to discuss current industry problems and disseminate the latest information on them. All affairs were evening meetings, preceded by a dinner.

In the Bulletin describing the sessions, Fred N. Beckwith, secretary of the group, gave advance notice of the industry luncheon to be held November 3 at the Hotel Statler, Boston.

## Senator Taft To Speak At December Warm Air Meeting

THE 36TH ANNUAL CONVENTION of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, will be held December 14 and 15 at the Cleveland Hotel, Cleveland. A full two day's program, being arranged by the Association's Program Committee, is being formulated to be of particular interest to the entire warm air heating industry, with talks by nationally prominent figures augmenting those reporting on the industry's progress.

Highlighting the program will be Senator Robert A. Taft (R), Ohio. His talk will touch on current developments and information of interest to the industry and to labor, with facts and figures promised to substantiate his statements.

## Wisconsin Association Holds First Fall Meeting

THE FIRST MEETING of the Fall season for members of the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., was held at the Wisconsin Hotel on September 29. The meeting was the occasion to launch an aggressive program for fall and winter, with particular emphasis on the activities of the legislative, advertising and home show committees.

Announcement also was made of a training course for oilburner service men, developed in conjunction with the Milwaukee Vocational School, for which the services of a full-time instructor are being sought.

## Fifth Year for New England Technicians' Training School

SPONSORED by the Oil-Heat Institute of New England, Boston 15, Mass., classes which commenced on September 12 in Worcester, opened the fifth year of the Technicians' Training School. For the first time, enrollment is being opened to all members of the industry, with first opportunity given to Institute members and vacancies remaining after a reasonable time being assigned to applications received from non-members. During September, courses also began in Springfield, Hartford, Providence and New Bedford, with each scheduled for ten weekly lessons of three hours each. No classes will be held during a week containing a holiday.

The September classes are for the benefit of dealers and service men in what has been designated Group I area. Classes in the Group II area, with one weekly session in Brockton and four in Boston, will begin on January 9 and the final courses to serve the Group III area will open in Salem on April 10, 1950. Other classes in this Group are to be conducted in Lawrence, Manchester, Portland and Bangor.

Responding to requests from dealers who were planning to patronize the schools and in cooperation with manufacturers of the equipment, each of the ten classes is to be devoted to discussion and demonstration of specific makes of oilburners. High pressure burners to be


NOW is the TIME to "CLEAN-UP" with a GRAND RAPIDS FURNACE CLEANER

*Act Now!* Get in on this year's cleaning profits. *Order a Grand Rapids Furnace Cleaner.*

**IT'S FAST**—Handles twice as many jobs as the ordinary furnace cleaner.

**IT'S THOROUGH**—High velocity suction completely removes ashes, soot, scale and dirt from every type of heating plant.

**IT'S COMPLETE**—A packaged unit with practical cleaning attachments designed for fast, easy cleaning.

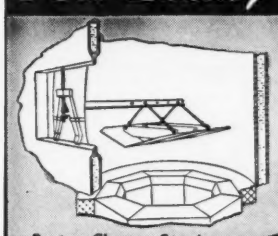
**IT'S PROFITABLE**—The trouble-free operation and speedy service of the Grand Rapids Furnace Cleaner puts extra profits in your pockets.

*Send today for complete information about the Grand Rapids Furnace Cleaner.*

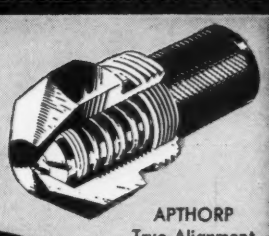
DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan

FOR Quality INSTALLATIONS



Boston Chrome Steel "HANG-DOWN" BAFFLE

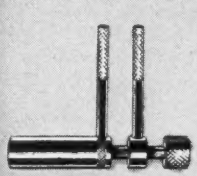


APTHORP True Alignment OIL BURNER NOZZLE

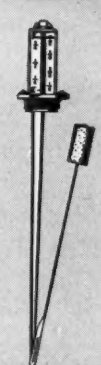
BOSMACO

Instant-Glo COMBUSTION CHAMBER

The Boston Standard DRAFT CONTROL



Ideal NOZZLE EXTRACTOR



Clearview OIL TANK GAUGE

BOSMACO Apthorp NOZZLE KIT

WRITE FOR COMPLETE INFORMATION

BOSTON MACHINE WORKS COMPANY

*Oil Heating Supplies Division, Manufacturers,* Lynn, Mass.

featured are Delco and Waltham, with General Electric, Williams Oil-O-Matic and Winkler on hand to provide information on low pressure burners. Wall flame rotaries will be represented by Timken and Toridheet and three makes of vaporizers, American Stove, Coleman and Duo-Therm, are to cover that category. Engineers from the individual companies have arranged to be present at the sessions and conduct the classes devoted to their own equipment.

Tuition for the entire course is $25.00, with a discount allowed members of the Institute or their employees. Information and application blanks may be obtained from Otto V. T. Urban, director of Education, Oil-Heat Institute of New England, Boston 15, Mass.

## Convention Plans Announced by AGA

PLANS for annual conventions, announced by the American Gas Association, New York 17, N. Y., disclose that the 1949 meeting will be held in Chicago, October 17-20 and the 1950 gathering will convene at Atlantic City, N. J., October 2-6.

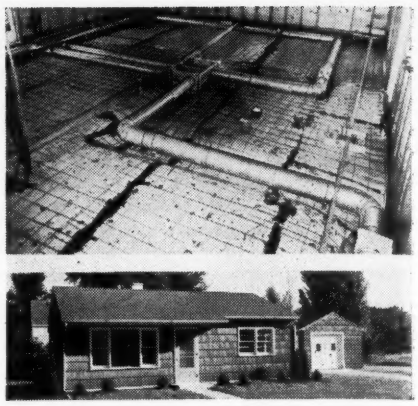
George E. Whitwell, Philadelphia Electric Co., has been named chairman of a seven man committee, appointed to select a city and date for the 1951 convention.

## Warm Air Association Dedicates Third House

DEDICATION CEREMONIES were held September 26, for the third research residence of the National Warm Air Heating and Air Conditioning Association at Urbana, Ill. The new 4½-room, frame house has been built on a concrete slab for research into improved indoor comfort in homes of the $9,000 to $10,000 class.

The house has no storm windows, weatherstripping or wall insulation, though it has been proved that such measures will reduce heating costs by one half. The purpose of the residence is to learn how to overcome these hurdles as economically as possible.

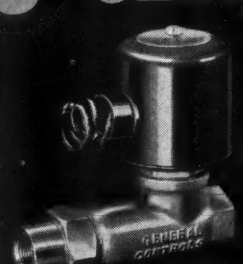
Four heating systems will be tested this coming winter. One will be a radiant-convection system with air ducts imbedded in the outer perimeter of the concrete slab. Floor registers opening into the ducts make it possible to admit warm air into the house itself. Other systems will include a gravity system with high side wall registers and low wall returns, a forced air system using the gravity system ducts, and a winter air conditioning plant using low wall registers with high side wall returns.



**Top:** *Layout and arrangement of ducts before concrete floor was poured. Bottom: Exterior view of Research Residence.*

More than three miles of fine wire will connect thermocouples in every part of the house with the control and recording panels.


6 times THE POWER OF ORDINARY SOLENOID VALVES



GENERAL CONTROLS K-10 SERIES ELECTRO-MAGNETIC LEVER VALVES

**CONTROLS:** LIGHT AND HEAVY OILS, AIR, WATER, GAS, STEAM, REFRIGERANTS, etc. Suitable for pressures up to 1000 pounds and temperatures up to 400° F.

**SIX TIMES THE POWER** of ordinary solenoids assures high seating pressure and overcomes the blocking effect of viscous fluids, such as heavy fuel oil. Adequate power of solenoid insures positive operation. Normally closed or open types available.

Internal valve assembly can be removed for cleaning and inspection if necessary. Two-wire—A.C. or D.C.—current failure—packless construction—bronze body—stainless steel and bronze internal parts—soft seats available.

FOR COMPLETE SPECIFICATIONS request new Catalog.

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.
Manufacturers of Automatic Pressure, Temperature, Level & Flow Controls
FACTORY BRANCHES AND DISTRIBUTORS IN PRINCIPAL CITIES

SHIPMENTS FROM STOCK

Pat. & Pats. Pend

LOVEJOY FLEXIBLE COUPLINGS

3 & 2 piece Type UX Doubleflex

Make sure with Lovejoy L-R, standard in Oil Heating Industry. Flexible. Dependable. Fan mfrs. supply fans with L-R jaws on hubs. Wire or Write for details and prices.

LOVEJOY FLEXIBLE COUPLING CO.
5012 W. Lake Street
Chicago 44, Illinois

Herco has it!

WHAT, you say?

- **A low-cost Stainless Steel Oil Heat Unit for warm air systems. Offers your customers dependable automatic heat plus beauty, comfort and economy . . . in one low-priced package.**
- **A conversion burner that's really a dandy . . . with exclusive "under the hood" features that put sell in your sales talk.**

*Write for literature*
HERCO OIL BURNER CORPORATION, Lancaster, Pa.

## Fueloil Division of N. Y. Association Elects

OFFICERS of the Fueloil Council of New York, division of the New York Oil Heating Association, Inc., were elected at the organization's September meeting.

The slate, elected for one year, consists of Chairman, Matthew H. Conviser, Quiet May Oil Heat Corp.; Vice-Chairman, Charles Kinsella, Wm. J. Kinsella Fueloil Corp.; and Treasurer, Joseph Carini, Empire Heating Corp.

◈

*Robert Fleming, Jr.,* has joined the Field Service Staff, National Tank Cleaning Co., Philadelphia 44, Pa. Mr. Fleming's background includes several years of field service work for Sun Oil Co. He is preparing now to take over as manager of NATCO's field service department, in one of the steps described as part of an expansion program to enlarge all company departments to meet increase demand for the Visa-Clean method of fueloil tank cleaning. The Philadelphia outlet is one of seven franchise organizations appointed by the Baltimore holding company.

# *Readers' Forum*

WILLARD G. MYERS
Philadelphia 7, Pa.

*Editor:*

The article, "A Question of Draft," by Mr. Feigenbaum in the September issue was surprisingly incomplete.

Mr. Feigenbaum explains at some length the various expensive and cumbersome methods by which poor draft can be corrected, and omits entirely the simple expedient of using an electrical draft inducer. Wired to operate whenever the burner is running, the draft inducer will insure any amount of draft that may be required.

Shame on Mr. Feigenbaum—and you.

WILLARD G. MYERS

SOUTH SHORE OIL BURNER SERVICE
Chicago 49, Ill.

*Editor:*

Permit me to suggest that you recommend to oil burner manufacturers that they supply with each new burner a cover for the end of the blast tube, for purposes of preventing cement getting into the cone or vanes. Such a cover would save time and trouble when installing the burner, particularly in cases where it is difficult to reach in conveniently to do a smooth job of finishing around the tube.

The cover could be made of celluloid or thin cardboard with edges snugly slipped over the end of the blast tube about a half inch.

FRED Y. MOLLER

◈

*Kenneth H. MacWatt* has become director of engineering sales, L. O. Koven & Bros., Inc., Jersey City, N. J. He succeeds W. D. Birch, who resigned to assume more active control of outside interests.

*George Gund,* president, Cleveland Trust Co., recently was named to the board of directors, The Timken Detroit-Axle Co., Detroit, Mich., parent company, Timken Silent Automatic Div.


**NEW YORK TECH**
*America's Outstanding School of*
**OIL BURNER**
**INSTALLATION AND SERVICING**
*The School to Think of if:*
**YOU HAVE MEN TO TRAIN**
**or**
**REQUIRE TRAINED SERVICEMEN**
*Call or Write*
**NEW YORK TECHNICAL INSTITUTE**
553—6th Avenue, New York 11, N. Y. CHelsea 2-6330

**To our readers:**
Do you know that this copy of FUELOIL & OIL HEAT is likely to be in active use for 12 days? —before being filed away?

*Verified by FACT FINDERS*

**Dissolves Sludge, Tar and Carbon**
**Absorbs Moisture**
• MORE HEAT from LESS FUEL

FOR HOME AND INDUSTRIAL USE
NON-TOXIC
NON-INFLAMMABLE
NON-CORROSIVE

**Cosmiclene**
**FUEL OIL TREATMENT**

COSMICLENE FUEL OIL TREATMENT has been tested and approved by home and industrial users over a period of years. It is the best method of preventing Oil Burner break-downs, due to sludge, tar and carbon.

COSMICLENE eliminates objectionable oil odors, stops inside rust and corrosion and insures free and clear burners.

Now available in pints, quarts, 1, 5, and 55 gallon drums.

*Address all inquiries to:*
**OLDE FORGE PAINT & REFINING CORP.**
214 W. 65th St. • New York 23, N.Y.

# Instantaneous Hot Water

## Tankless Heaters on Forced Circulation Water Heating Systems

by
George H. Lippencott
and
George H. Lippencott, Jr.

THERE ARE SOME POINTS in the operation of an instantaneous domestic hot water heater with a forced circulation hot water heating system that differ widely from the conventional indirect water heater and tank. Househeating loads are more quickly reflected on the boiler with a circulator pumping the boiler water through the system at a much higher rate than encountered in a gravity system. Domestic water loads also are quickly reflected on the boiler with the high rate of transmission in the heater.

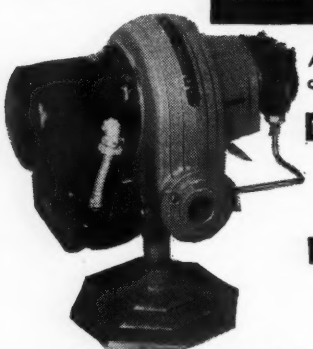
During the heating season a boiler containing, for example, sixty gallons of water should not be expected to supply twenty or thirty gallons of domestic hot water at a satisfactory temperature and at the same time supply water to the radiators sufficient for heating the house. The result of these two systems demanding heat at the same time will be unsatisfactory domestic hot water temperature and unsatisfactory heating. The elimination of complaints from this source is strictly a problem of control assuming the installation is properly made in all other respects.

The accompanying sketch is an example of the proper way to install a portable type instantaneous indirect heater on a forced circulation hot water heating system.

A. Heater flow line (1) is connected to the boiler riser at a point where the highest temperature exists. A bulb fitting is installed in this line for the high limit aquastat (2). Locating the aquastat here insures a fairly accurate control with no appreciable lag in the control action.

B. The return connection from the lower tapping in the heater shell is connected to the return tapping of the boiler completing the circulating loop between the boiler and the domestic water heater (4). A bulb fitting is placed in this return connection close to the heater shell to receive a reverse acting aquastat (5). The aquastat acts as a low limit control at this point. When domestic water is drawn, the boiler water which has passed over the coil surface in the heater and dropped to a relatively low temperature, comes in contact with the aquastat bulb causing the oil burner to start as soon as a faucet is open. Placing the low limit control at this point brings extremely rapid reaction to the use of domestic water and prevents the boiler water temperature from dropping below 165° F. This is a minimum boiler water tem-

important OIL BURNER FACTS ABOUT Radiant THE SERVICEMAN'S BURNER



*A nation-wide survey conducted by our advertising agency showed that*

1. RADIANT burner performance is equal to the highest price burner. Yet they are priced to meet the lowest competition, even on project work.
2. Heavy sales are due to
—low cost of upkeep
—ease of installation and servicing
—factory guarantee
—national distribution in protected territories

*Write for complete details*

Virginia and North Carolina Representative

FRANK TURNER CO.
7105 Hermitage Rd.
Richmond, Virginia
Tel.: 4-9919

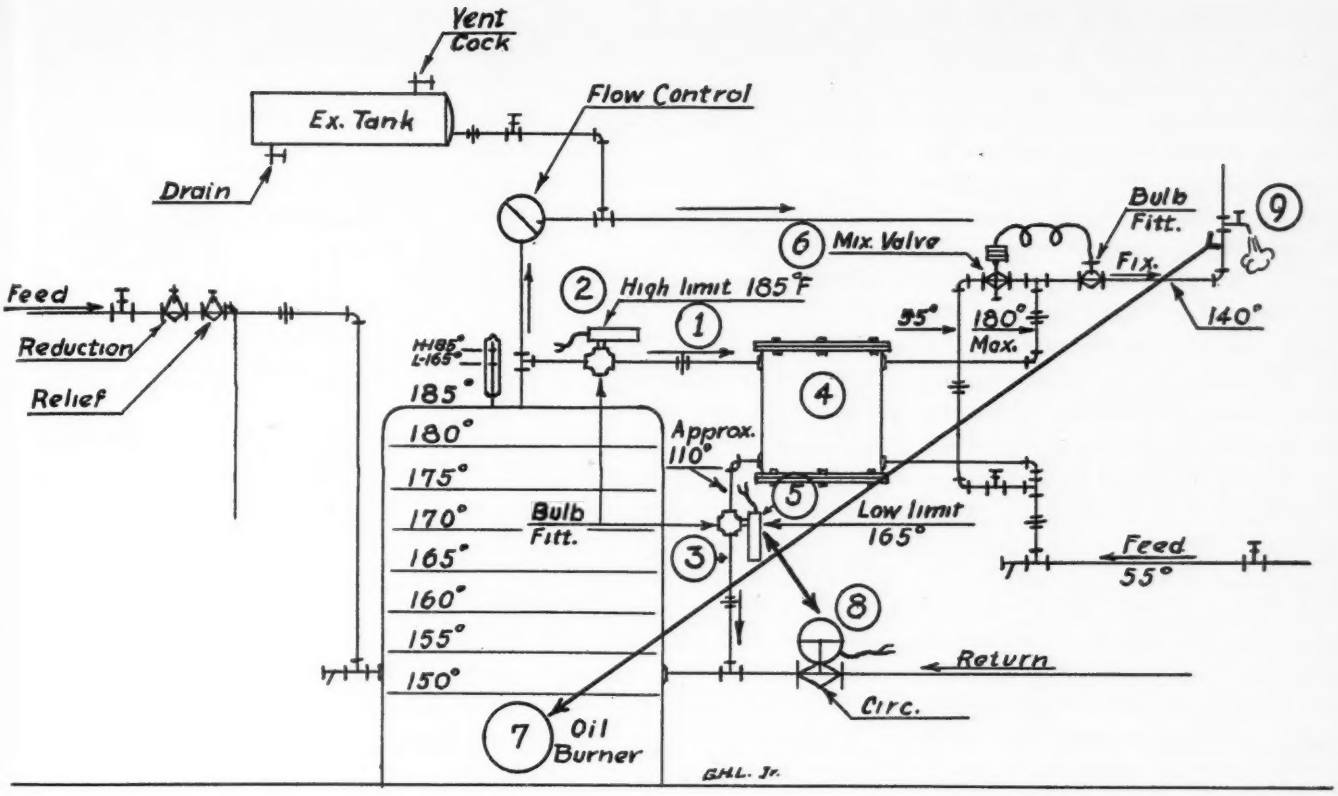
RADIANT UTILITIES CORP.
8817 18th AVE., BROOKLYN 14, N. Y.

Solenoid STAINLESS STEEL Valves FOR OIL BURNERS

For increased customer satisfaction, always install Skinner Valves on new burners and as replacements. Soft synthetic inserts assure long life without leakage. Spring loading positively opens or closes valve in any position. Coils impregnated to withstand moisture. Available for drip eliminator, cut-off, pressure relief, gas ignition, shut-off, shut-off metering, shut-off with manually adjustable by-pass. All models for continuous or intermittent duty.

New Bulletin No. 492 contains complete data and prices. Write for FREE copy.

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
137 Belden Ave., Norwalk, Conn.




perature for satisfactory instantaneous domestic water.

C. The reverse aquastat (5) must be capable of handling a second electrical circuit which it opens upon actuation of the aquastat by the low temperature boiler water leaving the heater. This part of the control is placed in series with the circulator controls to prevent the

# IT'S EASY TO STOP RADIO INTERFERENCE

## From Oil Burners!

The whole "trick" in stopping radio and television interference effectively is to have the right filters and know how to use them properly. Sprague interference filters are tops for the job—and you can install them fast and easily in either old or new oil burner installations. Sprague Bulletin C-378B tells the story. Write for yours today!

**SAVE TIME ON MOTOR CAPACITOR REPLACEMENTS**

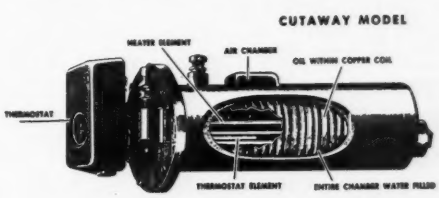
The speed of the motor and its horse power rating are all you need to know to select a safe, long-lasting Sprague motor capacitor replacement. Write for free Sprague shop wall chart C-900 and Sprague pocket guide C-901.

**SPRAGUE PRODUCTS CO.**

(Distributors' Division of Sprague Electric Co.)

North Adams, Mass.

# VISCOS-O-TROL




**GREATEST ADVANCE IN HEAVY OIL BURNER DESIGN IN TWENTY YEARS**

VISCOS-O-TROL means viscosity control of oil by temperature control.

VISCOS-O-TROL provides consistent atomizing quality as well as consistent flame volume which results in consistently high combustion efficiency.

VISCOS-O-TROL can be installed on any existing rotary oil burner, improving its performance tremendously.

MAKE FRIENDS AND MONEY BOTH BY SELLING THE MOST MODERN AND COMMON SENSE OIL PREHEATER SYSTEM.

**WRITE**

**SUPERIOR ENGINEERING CO.**

**1817 Olive Way, Seattle 2, Washington**

circulator starting when domestic hot water is being drawn. As soon as the faucet is closed, the aquastat will permit the circulator to operate. If this control arrangement were not used and the room thermostat called for heat while domestic water was being drawn, the circulator with a capacity of 15 to 20 gallons a minute would pump the high temperature boiler water into the radiation leaving the unsatisfactory low temperature return water in the boiler. The instantaneous heater could not deliver a satisfactory hot water temperature under this condition and the recovery on the heating boiler would not be rapid enough to provide a satisfactory boiler water temperature. If however, the circulator is cut out during the time domestic water is being drawn, the burner will supply sufficient heat units to replace those transferred to the domestic system and assure a continuous supply of satisfactory hot water to the faucet. A complaint from this source would naturally only occur in the heating season. This system of control outlined will not interfere with heating the house to any extent. The period of time during which domestic water is drawn and the circulator can not operate is not long enough to allow the temperature of the water in the radiation to drop more than a few degrees. Therefore, if the locations of the controls are correct and the proper controls installed the result will be very satisfactory.

D. An automatic tempering valve (6) should be installed on all instantaneous installations as shown in the sketch for the following reason. With boiler water maintained at 185° F. and no domestic water being drawn for a short time the water laying in the coils of the heater will reach a temperature approximating that of the boiler water. There is a danger of scalding with this high temperature water when a faucet is opened. The water tempering valve practically eliminates this possibility, if it has a rapid action. Care should be taken in selection of this valve, keeping in mind the need of quick action and also that corrosion slows the movement of these valves and seriously affects the operation. In our experience tempering valves with internal thermal elements are to be avoided since corrosion acting as an insulation destroys the original temperature range. External bellows operated units of non-corrosive metal are preferable.

"The boss has asked everyone to help keep the office expenses as low as possible this year"

E. Heavy arrow (5, 7, 8, 9) shows the four main factors in maintaining satisfactory domestic water temperature and obtaining snap action control. When the faucet (9) is opened, Aquastat (5) starts the burner (7) immediately and cuts out the Circulator (8).

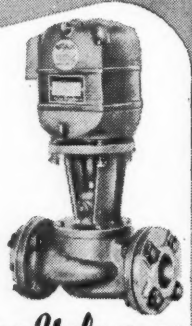
◈

*Robert C. Champlin,* general manager, J. L. Gillen Co., Dowagiac, Mich., was named vice president at a recent board of directors meeting.


Yula

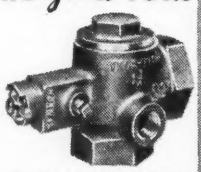
HAS EVERYTHING YOU NEED AT LOW PRICES!

IN-BOILER HEATERS

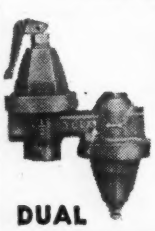


CIRC Yula TORS

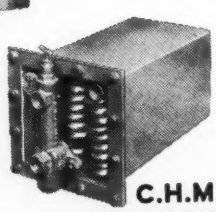
MIXING VALVES



FLOW VALVES



DUAL CONTROLS



C.H.M. RESIDENTIAL TANKLESS HEATERS

PRESSURE REDUCING VALVES

Yula WATER HEATERS, INC.
166 WEST 225 ST. • NEW YORK 63

WRITE FOR COMPLETE CATALOG

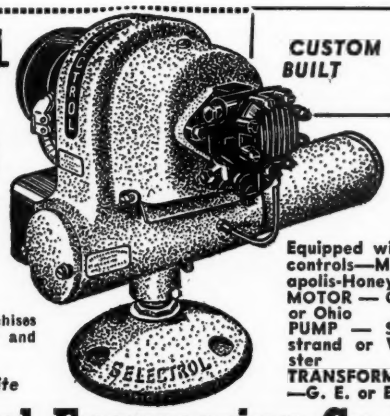
SELECTROL OIL BURNERS

CUSTOM BUILT

★ EFFICIENT
★ DEPENDABLE
★ QUIET

Highly Profitable Franchises Available for Dealers and Distributors

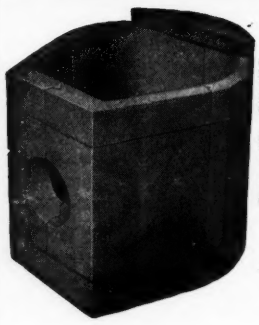
For information write




Equipped with 3 controls—Minneapolis-Honeywell MOTOR — G. E. or Ohio PUMP — Sundstrand or Webster TRANSFORMER —G. E. or Equal

Selectrol Engineering Co.
2036 McDonald Avenue Brooklyn 23, New York

truly TIME-TESTED



LITE-CAST COMBUSTION CHAMBERS

Patent No. 2075433

★ Send for our — NEW 12 PAGE ILLUSTRATED CATALOG which contains specifications and valuable information on our complete line of Combustion Chambers.

MONOGRAM PRODUCTS CO.
PHILADELPHIA 4, PA.

# Manufacturers Activities

## Four Personnel Changes Made In G-E's Air Conditioning Dept.

FOUR CHANGES made in the Air Conditioning Dept., General Electric Co., Bloomfield, N. J., announced recently told of the addition of two management personnel and the promotion of two others within the organization.

Stan P. Schrameck has been appointed manager of marketing personnel and sales training, to be responsible for the development and administration of programs to cover these activities. Prior to his appointment, he had been a management-consultant specialist in sales training with X. F. Sutton Associates, New York.

John R. Gowell, formerly an engineer with the management consultant firm of Booz, Allen and Hamilton, New York, has been added to the staff as manager of sales forecasting.

Within the company, Roy H. Stearns was promoted from the position of

*Top, left, Schrameck; right, Stearns. Bottom, left, Gowell; right, Hart.*

builder sales representative in the northern New Jersey area to manager of builder sales. As such he will concentrate on the sales of G-E automatic heating equipment to builders through distributors. Finally, the announcement was made of the appointment of G. W. Hart as manager of market research to direct and conduct market and distribution research on the department's present and proposed products to determine size and location of markets, customer preferences and appropriate distribution channels. Prior to this appointment, Mr. Hart was manager of sales forecasting and scheduling.

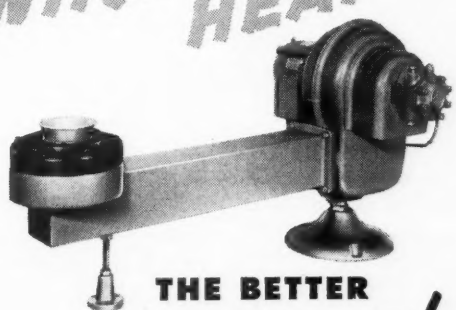
## Duo-Therm Engineering Manual Discusses Oilburning Furnace

THE ENGINEERING MANUAL, prepared by Duo-Therm Div., Motor Wheel Corp., Lansing 3, Mich., on its oilburning furnace discusses models that range in capacity from 50,000 to 108,000 Btu/hr bonnet output capacities, in forced air and gravity models, intended for installation in basements or utility rooms. Contents of the book are arranged in logical sequence, beginning with data on furnace construction and operation, proceeding to specifications and survey, setting up the furnace through the installation and final adjustment and service routine.

A considerable number of data tables,


DEALERS WANTED!

SWIRLING HEAT



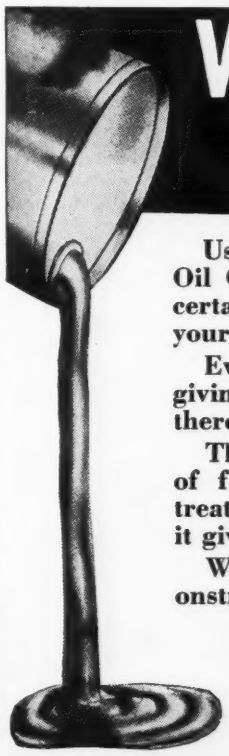
THE BETTER OIL BURNER!

Live customers are waiting for the superior performance that Swirling Heat can deliver! *We are looking for live, experienced dealers who will welcome a line of better burners.* Let's get together!

- NO COMBUSTION CHAMBER REQUIRED
- NO CARBONIZING ON NOZZLE OR IGNITION POINTS
- HIGHER $CO_2$ — GREATER EFFICIENCY
- INSTALLATION PROBLEMS GREATLY SIMPLIFIED

SWIRLING HEAT CORPORATION, 1775 BROADWAY, NEW YORK 19, N. Y.

RESEARCH LABORATORIES, 2818 N. WASHINGTON BLVD.
SINCE 1929 ARLINGTON, VIRGINIA



WASTE LESS FUEL OIL

Use Alken-Certified Even-Flo Fuel Oil Conditioner in your oil and be certain of obtaining the most for your money.

Even-Flo improves atomization, giving more complete combustion, thereby reducing soot deposit.

That over *1,000,000,000* gallons of fuel oil have been successfully treated with Even-Flo is proof that it gives "TOPS" in results.

Write for booklet and *FREE* demonstration in your fuel oil.

ALKEN-MURRAY CORP.

131 E. 23rd St.
New York 10, N. Y.

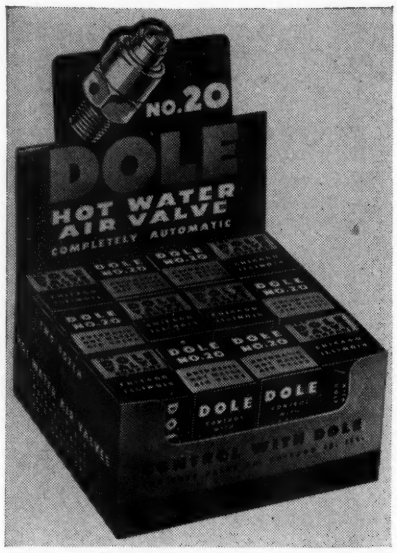
*Individual Water Treatments—Soot Removers*

Certified Alken
EVEN-FLO
FUEL OIL CONDITIONER

diagrams and photographs of equipment cut-a-way to show interior construction and components are reproduced to accompany explanatory text. The initial chapters contain details on "The Heating Specification," describing the completion of a typical data sheet from which are to be taken the data required to survey intelligently the heat requirements of a particular house. Succeeding chapters discuss utility room installations, with a labelled diagram illustrating such a system, with the same treatment accorded chimney problems and placement and a typical oil storage and piping installation. Duct installation and descriptions of each component part which affects the unit's operation and adjustment rounds out the installation data. There follows information on service kits and rather detailed procedures to follow in correcting fifteen service problems.

### Dole Releases New Display Box; Cuts Register Prices

A NEW METHOD of packaging, developed by Dole Valve Co., Chicago 12, Ill., for its No. 20 automatic hot water




air valve, has produced a carton that can be used as a counter display. Each valve is wrapped in an instruction sheet and packaged individually, and two dozen of the packages included in each carton. The merchandiser, attractively colored, has a die-cut top, which is folded back for display purposes to reveal a picture of the valve.

J. F. Lund, sales manager of Dole's plumbing and heating division has disclosed also the reduction of $10 in suggested list price for Dole Air Controls, thermostatic warm air registers. Production increases and economies have made the saving possible, according to Mr. Lund.

### American-Standard Opens Three Plants; Organizes Department

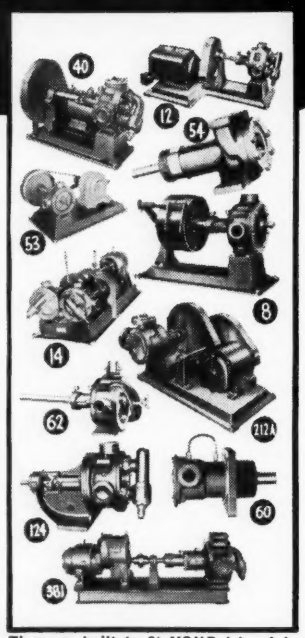
THREE CLOSED PLANTS, at Baltimore, Bayonne and Buffalo, have been reopened by the American Radiator and Standard Sanitary Corp., Pittsburgh 26, Pa. No action was taken on the Pittsburgh plant, closed since April 28. The openings returned 2,800 workers to employment at the three plants. Plumbing products are produced at Baltimore, domestic radiators at Bayonne and cast-iron boilers for home heating at the Buffalo Bond plant. Theodore E. Mueller, president, in announcing the reopenings explained they were possible after an upturn in business had reduced warehouse inventories, which had been filled to capacity at the time the plants were closed.

Another recent American-Standard


LOWER YOUR COSTS
By Using The Right
VIKING PUMP
FOR YOUR JOB!

There is no compromise when you pick Vikings for your job. They are built in the most complete range of sizes and styles to give you the pump that will help you cut your pumping costs.

The Viking line assures you of the correct pump. No wasted power . . . no need to accept a pump not quite designed for your work . . . or one a little too small . . . or one a little too large.




They are built to fit YOUR job. Ask for free folder 1500EE today.

VIKING
AN HONORED NAME IN PUMPING

See Our Catalog In SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

For More Profitable Jobs
NU-TROJAN
Combustion Chambers
A Product of McLeod & Henry Co., Inc.

Nu-Trojan Chambers have the features that lower installation costs and reduce servicing costs to help you secure profitable jobs. Has few parts, does not need steel bands to hold them in place. First quality "Steel Mixture" Pennsylvania fire clay. Fusing point 3180° F. Write Dept. 61 for details.

A. R. WEBBER CO., INC.
DEPT. 61
NEW HAVEN 11, CONN.

EVERYTHING FOR THE OIL BURNER TRADE

MODEL AL
AUTOMATIC
OIL BURNER

Modern design, providing extreme beauty, efficiency and practicability. Featuring qualities and economy together with simplicity of construction and operation.

WEATHERALL ENGINEERS, INC.
387 CHARLES STREET
PROVIDENCE 4, RHODE ISLAND

activity, revealed by D. D. Couch, vice president and general manager of sales, was the establishment of an application selling department. This special customer service is to provide technical information on design, installation and care of heating and plumbing equipment to assist dealers, salesmen and service men in learning details of the equipment they are handling so that they can give mature advice and counsel to the consumer. The department is under the management of Walter Wehner, associated with American-Standard for fifteen years and chosen from the Newark sales organization, assisted by Charles T. Woodroof, product specialist in the general sales department and N. H. Richfield, member of the manufacturing department, with wide experience in the oilburner field.

## Perfex Distributors to Use Portable Control Tester

A PORTABLE control tester, the Checktrol, has been introduced by Perfex Corp., Milwaukee, Wis. Each Perfex distributor will be equipped with one of the new devices, which will be made available at reasonable cost to any dealer who desires to obtain one.

The unit will permit a fast, accurate check on the operation of Perfex, and

other makes of domestic heating controls. Such tests should eliminate the necessity of returning any but defective controls for repair or replacement. According to Idwal Parri, Perfex service manager, a high percentage of controls now returned to the factory are found free from defect and the Checktrol was devised to save the needless expense of returning good controls and, at the same time, will increase the effectiveness of a dealer's service.

## Winners In Timken Sales Contest Have Choice of Vacation Spots

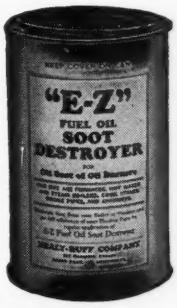
ALL-EXPENSE VACATIONS in Virginia or Colorado await approximately 300 winners in the 1949 Sellabration Contest, conducted for its dealers and salesmen by Timken Silent Automatic Div., Timken-Detroit Axle Co., Inc., Jackson, Mich. The winners will have a choice of vacationing at the Cavalier Hotel, Virginia Beach or at the Broadmoor Hotel in Colorado Springs. There are also numerous merchandise prizes for those who cannot take advantage of the vacation plans.

Awards are made for outstanding achievement in the sale of Timken heating equipment, with an analysis of individual sales records indicating that this year's group of winners will be the largest in some time. The contest will close October 31. The vacation week will extend from November 6 to 12.

E-Z
SOOT DESTROYER
PAYS PROFIT - SAVES TIME

(*For fuel oil soot only.*) Keep a supply on every Service Truck. Sell cleaning jobs at every opportunity. *Use E-Z.* One application does a thorough soot cleaning job in one application. Pays profit. Saves time. Sell the one lb. cans to customers. If your Distributor cannot supply you, order direct.

No. 1 Pkg. approx. 1 lb. List $1.00 ea.
No. 5 Pkg. approx. 5 lbs. List $4.50 ea.
*Special discount to Distributors on quantities.*




HEALY-RUFF COMPANY
797 HAMPDEN AVE., ST. PAUL 4, MINNESOTA

Sundstrand OIL BURNERS

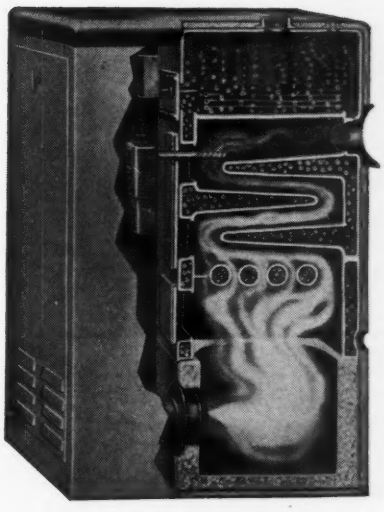
WRITE US FOR COMPLETE INFORMATION

THE "CUSTOM-BUILT" LINE FOR FORTY-NINE

FLANGE OR FOOT MOUNTED • FIRE TESTED • PRECISION MADE

SUNDSTRAND ENGINEERING CO.
ROCKFORD, ILLINOIS

Steel HEATING UNIT



Licensed under U. S. Pat.

Write for full particulars about Exclusive Franchise for your territory on our full line of MAGIC-HEAT Boilers and Boiler-Burner Units.

Magic-HEAT
TRADE MARK

*Product of*
MARIETTA METAL PRODUCTS CORPORATION
MARIETTA, PENNA.

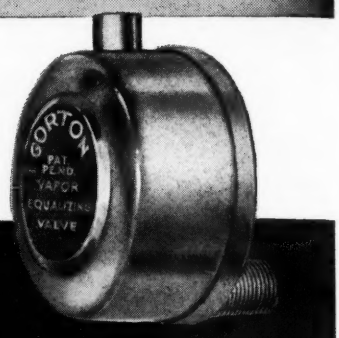
GORTON *Gives Guaranteed* EVEN HEAT DISTRIBUTION

**WINS SATISFIED CUSTOMERS . . .**

**The Gorton System of Vaporizing and Equalizing existing steam heating systems for automatic heating provides quick automatic equal distribution of heat to every room . . . The flow of heat is automatically controlled so that all rooms receive equal distribution of heat.**

**NO PIPING CHANGES REQUIRED . . . GETS RID OF THE COLD ROOM PROBLEM**

***GET THE FACTS . . . WRITE TODAY! . . . FOR BULLETIN NO. 115D***




**GORTON HEATING CORP.**

*Manufacturers of High Grade Heating Equipment Since 1887*

CRANFORD NEW JERSEY

## Delavan Manufacturing Lowers Prices of Nozzles and Strainers

A BLANKET price reduction on Delavan nozzle tips, strainers and standard adapters has been announced by Delavan Mfg. Co., Des Moines, Ia. Described as substantially lower than before the war, the prices were made possible by improved production methods and increased volume.

## Certified Fuel Unit Service Offering Emergency Car Cards

DISTRIBUTION of cards for display on automobile windshields by oilburner dealers and service men has been undertaken by Certified Fuel Unit Service, Elizabeth 4 and Newark 6, N. J. Measuring 8½" wide by 5½" high and printed on heavy card stock, the cards are printed in bright red letters with "EMERGENCY Oil Burner Service" on one side. It is intended to be left in a conspicuous place in a car or truck when a service call is being made, particularly when it is necessary to park over-time or in a restricted area.

The reverse side of the card carries the addresses and telephone numbers of Certified's offices, along with the information they are Webster Electric authorized service stations and wholesale distributors of a line of oilburner accessories.

## Wisconsin and Michigan Dealers Attend Blend-Air School

A GROUP of 25 oilheating equipment dealers attended a Blend-Air installation school at the Coleman Heating Institute, Coleman Co., Wichita, Kan., August 22 to 26. Made up of representatives from 22 Wisconsin and Michigan retailers, the party made the 2,000-mile trip from Manitowoc, Wis., to Wichita and return in a special bus chartered by the J. J. Stangel Hardware Co., Manitowoc.

The trip to the Coleman factories and training center was arranged by F. J. Soiret, Lloyd Van Nelson and Elroy H. Brick of the Stangel organization, who, with its franchised dealers, is introducing the Coleman Blend-Air system in northern Wisconsin and the western Michigan peninsula.

## Radiator Specialty Adds Four Sales Representatives

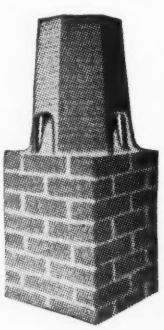
ADDITION of four sales representatives for its Solder Seal line has been made by Radiator Specialty Co., Charlotte, N. C. In Portland, Ore., Ken Sherwood will represent the company, while Frank L. Gross will operate in the Denver district.

With headquarters in Atlanta, Harry M. Hunter will cover South Carolina and northern Georgia, and Harry A. Obinger, the fourth appointee, will represent the company in Arkansas, parts of Alabama, Mississippi and Tennessee from his Memphis headquarters.

## Avco Consolidates Its Lycoming and Spencer Divisions

INTEGRATION into a single operating unit of the Lycoming and Spencer Heater Divisions has been announced by the parent organization, Avco Mfg. Corp. The new consolidation will be known as the Lycoming-Spencer Division, under the general managership of S. B. Withington, newly-elected Avco

**"VENTURI" CHIMNEY CAPS**



- Cure Down-Draft and insufficient draft troubles.
- Used extensively on Gasoline Service Stations and Other Low Buildings.
- Made of Permanent Fire-Clay.

***Write today for Guarantee, Prices, and Full Description.***

**VENTURI CHIMNEY CAP CO.**

**3641-H Fulton Road** **Cleveland 9, Ohio**

FOR A COMPLETE LINE OF RESIDENTIAL HEATING EQUIPMENT

OIL • GAS • COAL

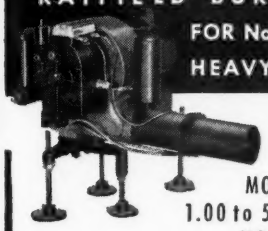
**Thatcher**

**FURNACE COMPANY**

Garwood, New Jersey

*Specialists In Heating Since 1850*

RAYFIELD BURNERS FOR No. 4 or No. 5 HEAVY OILS



MODEL JR.
1.00 to 5.00 GALS./HR.
MODEL D4
3.00 to 12.00 GALS./HR.

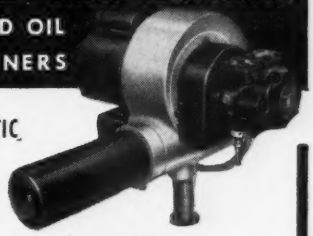
1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

RAYFIELD AUTOMATIC

HEAT RECLAIMERS

1. Low in Price—Automatic—Easy Installation
2. Installs on Boilers, Furnaces or Stoves
3. For use with Coal, Gas, Oil or Wood
4. Increases output of ANY gravity warm air furnace
5. Heats Basements, Play Rooms, Garages, etc.
6. The hotter the stack—the more heat reclaimed
7. Saves wasted heat now going up the chimney

RAYFIELD—SHELL COMBUSTION HEAD OIL BURNERS



for CATALYTIC OILS TO #3 GRADE
2 MODELS
1.00 to 3.00 GALS./HR. CAPACITY

1. Shell Head Economy 12 to 15% $CO_2$
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

C. L. RAYFIELD COMPANY • 2010-18 SO. HALSTED ST. • CHICAGO 8, ILL.

vice president, who came to Williamsport, Pa. in December 1948 to supervise both divisions.

The Lycoming-Spencer operations include manufacture of aircraft engines and precision machine parts produced by Lycoming and commercial and residential heating units and gray iron castings made by Spencer.

## Timken Retail Sales Manual Is Three-Fourths Completed

RELEASE to its dealers of the first nine sections of a 12-section retail sales manual has been announced by the Timken Silent Automatic Div., Timken-Detroit Axle Co., Jackson, Mich. T. A. Crawford, commenting on the manual, describes its selling theories as the same as those followed in merchandising any household specialty, adapted to meet the special requirements of automatic home heating equipment and Timken equipment in particular.

The manual has required more than a year to prepare and presents a step-by-step retail selling plan, starting with finding new prospects and ending with closing sales. It is intended to train new dealer-salesmen, but may be used also by experienced sales personnel to brush up on techniques.

The remaining three sections of the manual, together with supplementary reference sections; are being prepared, and should be published by the end of the year.

## Oilburner Parts Catalog Issued by Michel Company

ISSUANCE of a new parts and service catalog has been announced by the R. E. Michel Co., Baltimore, Md., oilburner parts and accessories distributor. In preparation for three and a half months, the new issue contains 800 illustrations and lists more than 1,000 items.

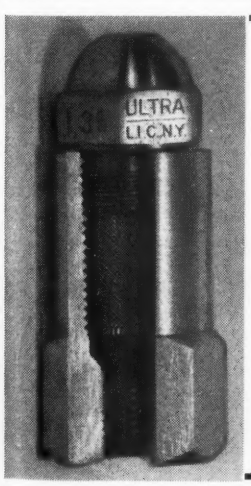
The company has provided a comprehensive guide to the oilburner service trade by including descriptions, specifications and prices for a variety of parts essential to the repair and installation of oilheating systems. Plans have been made to distribute the catalog to all interested groups in the field.

## Earl Smith Returns to Hart as Sole Owner

EARL K. SMITH, former vice-president and sales manager for Avery Farm Machinery Co., Peoria, Ill., manufacturer of the Hart oilburner, has returned to the industry after eight years in the armament and heavy equipment business. He has bought the assets of the Avery company, which was dissolved on August 31, and will operate as Avery Farm Machinery Co., Earl K. Smith, Owner.

E. K. Smith

Mr. Smith was identified with the Hart oilburner line for 17 years prior to 1941, when he joined R. G. LeTour-




Burn Catalytic Oil More Smoothly With

ULTRA

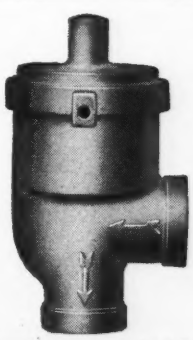
OIL BURNER NOZZLES

PRECISION MANUFACTURE

A stainless-steel nozzle made of 3 parts: strainer-disk-tip. Precision-built in design and construction. The ultra nozzle performance is reflected in absolute uniform atomization.

Write for details TODAY!

Ultra Metal Utilities Corp.
27-07 ASTORIA BOULEVARD
LONG ISLAND CITY 2, N. Y.



Permits pumping of oil but closes to prevent syphoning in case of suction line break.

PREFERRED Anti-Syphon Valves

APPROVED BY UNDERWRITERS' LABORATORIES, INC.

For Oils Up To No. 5—Valves C5 and C10 are available in ⅜" and ½" sizes.
For Oils Up To and Including No. 5—Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

PR-173

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N. Y.

**McCORKLE 412 PKG. SET**

**A NEW LOW COST CONTROL**

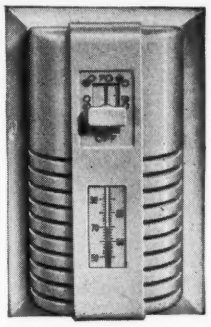
***For Natural Draft Burners***

**Easy to install—just plug it in. No licensed electrician required.**

**Emergency operating lever—automatically resets.**

**Accurate dependable Thermostat with positive night cut off.**

HIGH QUALITY—LOW PRICE



**D. H. McCORKLE CO.** **Box E, Station A, Berkeley, Calif.**


neau Company as chief production engineer. Following the completion of its war contracts, Mr. Smith retooled and equipped the company's Peoria plant for the production of earth moving machinery.

A furnace unit and a boiler unit will be in the line by November, according to Mr. Smith's present plans, and consideration is being given to production of a modified low-pressure burner again bearing the Hart name.

"I'm back in an old, familiar saddle, and it feels mighty good," says Mr. Smith.

## Hajoca Begins Fall Oilburner Promotion

LAUNCHING of its 1949 Fall sales promotion campaign on Hajoca oilburners has been announced by Hajoca Corp., Philadelphia 1, Pa. The campaign, designed for the benefit of dealers, is being presented at a series of local branch meetings during which a cooperative combination direct mail and newspaper campaign is explained.

Hajoca, manufacturers and wholesalers of plumbing and heating supplies, operates thirty-one Atlantic Seaboard branches. The company manufactures its own gun type oilburner in plants at Quakertown and Lansdale, Pa., and sells to dealers through its branches.

## Jas. P. Marsh Acquires Electrimatic Valve Division

ACQUISITION of the Electrimatic Valve Div., Simoniz Co., Chicago, has been announced by Jas. P. Marsh Corp., Skokie, Ill., manufacturers of recording and indicating gauges and instruments, steam and hot water heating specialties. The Electrimatic line, for refrigeration applications, will be handled by Marsh representatives.



## Home Building Awards Higher in Eastern Area

COMMITMENTS for residential building in the 37 states east of the Rocky Mountains amounted to $393,434,000 in August, according to F. W. Dodge Corporation. This total was 16% higher than in July and 17% higher than in August last year. Public residential awards increased 6% over July and 92% over August a year ago, while private residential volume showed a gain of 17% over July and 12% over August last year.

The cumulative total of residential awards, public and private, in the first eight months was $2,358,826,000 or 6% less than in the corresponding period of last year despite an increase in public residential volume from $84,039,000 to $246,544,000. Private awards declined 13% in the eight months. Apartment house construction increased 12%, single-family houses built to owners' orders were down 1%, and single-family houses built by operative builders for sale or rent declined 15% in eight months.

Thomas S. Holden, president of the Dodge corporation, told the annual meeting of the Producers' Council there would be little change in construction conditions in 1950. He expects a little less private building and a little more public construction. He sees the postwar adjustment about complete.

**SHALLO-WELL**

OIL-FIRED FLOOR FURNACES

ONLY **34** INCHES DEEP

BTU CAPACITIES OF

★ 50,000 ★ 65,000 ★ 75,000

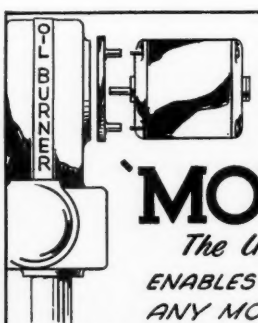
*Write for Details!*

ORAN

**ORAN COMPANY**

**2230 S. THIRD STREET**

**COLUMBUS 7, OHIO**




*PROFITS NOW*

*YOU COULD NEVER REALIZE BEFORE*

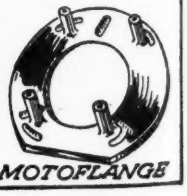
**'MOTOFLANGE'**

*The Universal Motor Adapter*

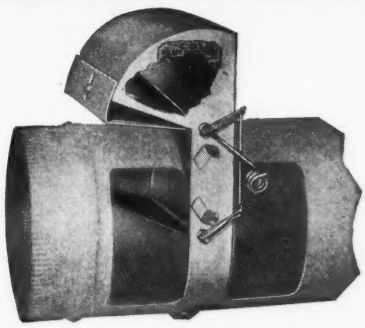
*ENABLES YOU TO HANDLE ANY MOTOR JOB ON GUNTYPE BURNERS IN ONE CALL - ANY STANDARD MOTOR PLUS A MOTOFLANGE DOES THE TRICK - ORDER OR WRITE*

*SPECIALTY SERVICE PRODUCTS*

*HASBROUCK HEIGHTS, N.J.*



*MOTOFLANGE*

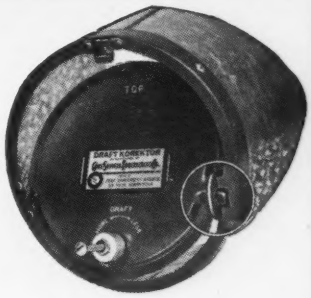


**COLE DRAFT GOVERNOR**

Reflection of quality is shown in every detail in this popular control. Skillfully designed to give perfect control with dependable noiseless operation. Wide range of sizes.

**DRAFT KOREKTOR**

Be prepared to offer the best with this control. We invite your comparison in performance, ease of installation, range of sizes, fuel saving ability and price.



WRITE TODAY FOR FULL DETAILS

*National Distributor For Bacharach Testing Equipment*

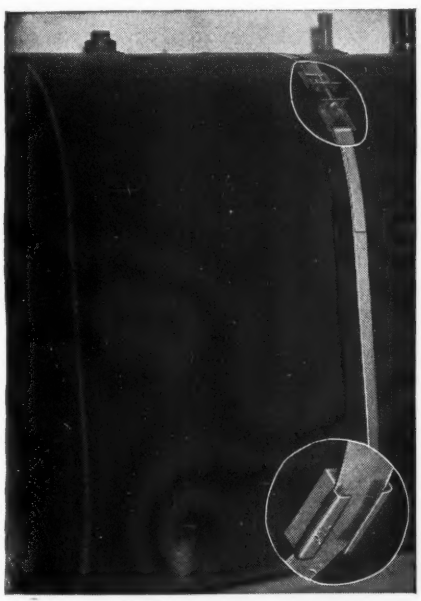
2288 UNIVERSITY AVE. **COLE-SEWELL ENGINEERING CO.** ST. PAUL 4, MINN.



USE

***TANKIT**

An emergency kit to stop a leak in an inside fuel oil tank instantly. IS TO BE USED FOR TEMPORARY RELIEF until such time as the fuel is consumed and the tank replaced. **TANKIT** is then to be put back in container for future use.



***NEW LOW PRICES!***

*Reg. *Pat. Pend.

1-2 $3.00
3-11 $2.75
12 or more $2.50

WRITE FOR YOUR NEAREST DISTRIBUTOR

**TANKIT CO.**

Box 174 Cedarhurst, N. Y.


## *Fueloil Expedients*

(*Continued from page 53*)

There is another form of publicity that has been worse . . . statements that spoke of oil scarcity ahead. Maybe whip cracking will get more tanks filled but the harm will more than offset any gains. At the middle of August the president of one of the largest majors, a well known individual, gave an interview to the United Press and was quoted in a lot of newspapers. The direct quotation that came as a shock to some of us was this: "If you freeze this winter or have to pay through the nose for home heating fueloil, it will result from your own shortsightedness or that of your distributor."

Where else in the world of business can you find an industry like the oil industry that feels it can scold its customers for not doing things to accommodate the supplier? You'd think the public existed to bless the oil industry. The truth is just the reverse, as public relations men are having to learn the hard way.

Throughout the country oilheating faces a growing wave of natural gas competition. It is serious, but it isn't going to stop the growth of oilheating because the industry in many important markets is gearing itself to let folks know what a fine product they have in oilheating . . . what a better way of life.

Every press statement about fueloil supply makes things harder for oilheating in this tussle with gas. Is anything ever gained by having a press statement about oil supply? It is of no real concern to the public. The oil industry alone bears the responsibility, and in the present temper of Congress it wouldn't dare to have another shortage in peacetime.

Gas salesmen tell their prospects that if they will only hook onto a pipe they will have no further concern about getting their fuels . . . the supply is automatic. It's one of the points they most emphasize. Every time, then, that we talk to the public about oil supply, even in favorable statements, we bring up the question, a question that should be forever buried. We play right into the hands of gas merchandisers.

Couldn't we try and keep all supply discussions inside the family and out of the public press . . . and also price changes?

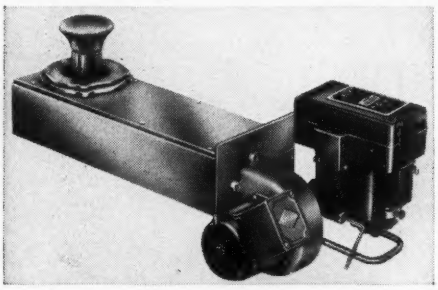
Let's see then just how our thoughts are stacking up. We have explored four of the summer's activities and expressed opinions based largely on the experiences and thinking of the fueloil marketers.

(1) The refiners should provide enough summer storage capacity that it wouldn't be necessary for them to put pressure on dealers or consumers to do something that they might not wish to do.

(2) Guaranteeing fueloil prices was an intelligent step for an emergency but should not again be attempted.

(3) Summer discounts to move more oil should take the form of wider margins for the marketers only, leaving out the consumers.

(4) Newspaper publicity on fueloil supply or prices should be avoided at all times. This refers of course to the



*Write Us Today About*

**THE BURNER FOR LOWEST COST HEATING!**

*Look for the*

KRES-KNO *Ball Flame*

**VAPORIZING OIL BURNER**

**Low Initial Cost • Completely Automatic**
**Economical • Trouble-Free • Underwriters' Lab. Listed**

**KRESNO-STAMM MFG. CO. (America) Inc.**
**PALISADES PARK, N. J.**
***Kresno-Stamm Manufacturing Co., (Canada) Ltd.***
**1452 Drummond St., Montreal 25, P.Q. — Factory: Granby, P.Q.**


general public press and not to business papers like the Journal of Commerce.

1949 has turned the spotlight on some industry shortcomings. Before next summer there will be plenty of time and plenty of steel and plenty of brains to forestall a repetition of this year's troubles. There's this to be said about the oil industry . . . once a problem is brought into focus the solution is not far away.

◈

### *Oilheating Trends*

(*Continued from page* 11)

jority of fueloil marketers think they are not practical for such work. Principal reasons that they give for this are: . . . high initial cost . . . hauls are too short in retail deliveries . . . fueloil trucks are of too small capacity . . . diesels are expensive to service . . . very poor at idling speeds . . . fumes are objectionable . . . annual mileage too low to warrant investment.

DEALER COMMENTS: Typical comments on questions of the month are these . . . "Price of fueloil is already too high" . . . "Fueloil should be less than ten cents a gallon" . . . "If prices go much higher gas will have the inside track" . . . "Filling station installers of burners and odd-job Jerry's are raising hell with prices and giving the public only what it pays for or less" . . . "We cannot understand the Majors' attitude toward prices of fueloil when they are losing the new house market everyday and also a majority of the conversions in our city" . . . "The higher the price of oil the easier it is to sell gas" . . . "For the present it is certainly highly irrational to increase the price of fueloil" . . . "We sold hard all summer and filled all possible customer storage at 9.5¢; we feel oil will rise ½¢ but have braced our users for a 1¢ rise" . . . "Would like to see fueloil dealers stop trying to service burners."

◈

*John A. Robinson* has been named regional sales manager for the Midwest, Northwest, Rocky Mountain and Pacific Coast areas for Brown Instruments Div., Minneapolis-Honeywell Regulator Co., Philadelphia, Pa. Mr. Robinson started with the company twenty years ago and will make his headquarters at Chicago. He has been succeeded as Chicago branch industrial manager by *Charles E. Sharp,* who has been with the company the same length of time as Mr. Robinson and with the Chicago office for the past five years.

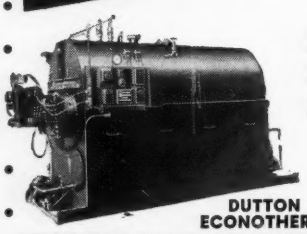
*Oscar C. Stark* has been named general sales manager, Photoswitch, Inc., Cambridge 42, Mass., with headquarters in the factory sales office, 39 Broadway, New York City.

*John H. Sheusner,* new chief engineer, Enterprise Engine & Foundry Co., San Francisco, Calif., during his five years with the company has been in charge of all new design developments in Enterprise's line of diesel engines. His new post includes direction of the engineering activities of the Oil Burner Division.


Dutton

**AUTOMATIC PACKAGED STEAM GENERATOR**

**OIL AND GAS FIRED**



***SAVE*** **on installation cost**
***SAVE*** **on smoke stack cost**
***SAVE*** **on fuel cost**

Exclusive Dutton features assure the finest in performance, economy and safety.

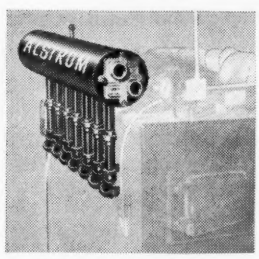
**DUTTON ECONOTHERM**

**THE C. H. DUTTON CO.**
**625 Gibson St.,**
**Kalamazoo, Michigan**

Dutton SINCE 1880

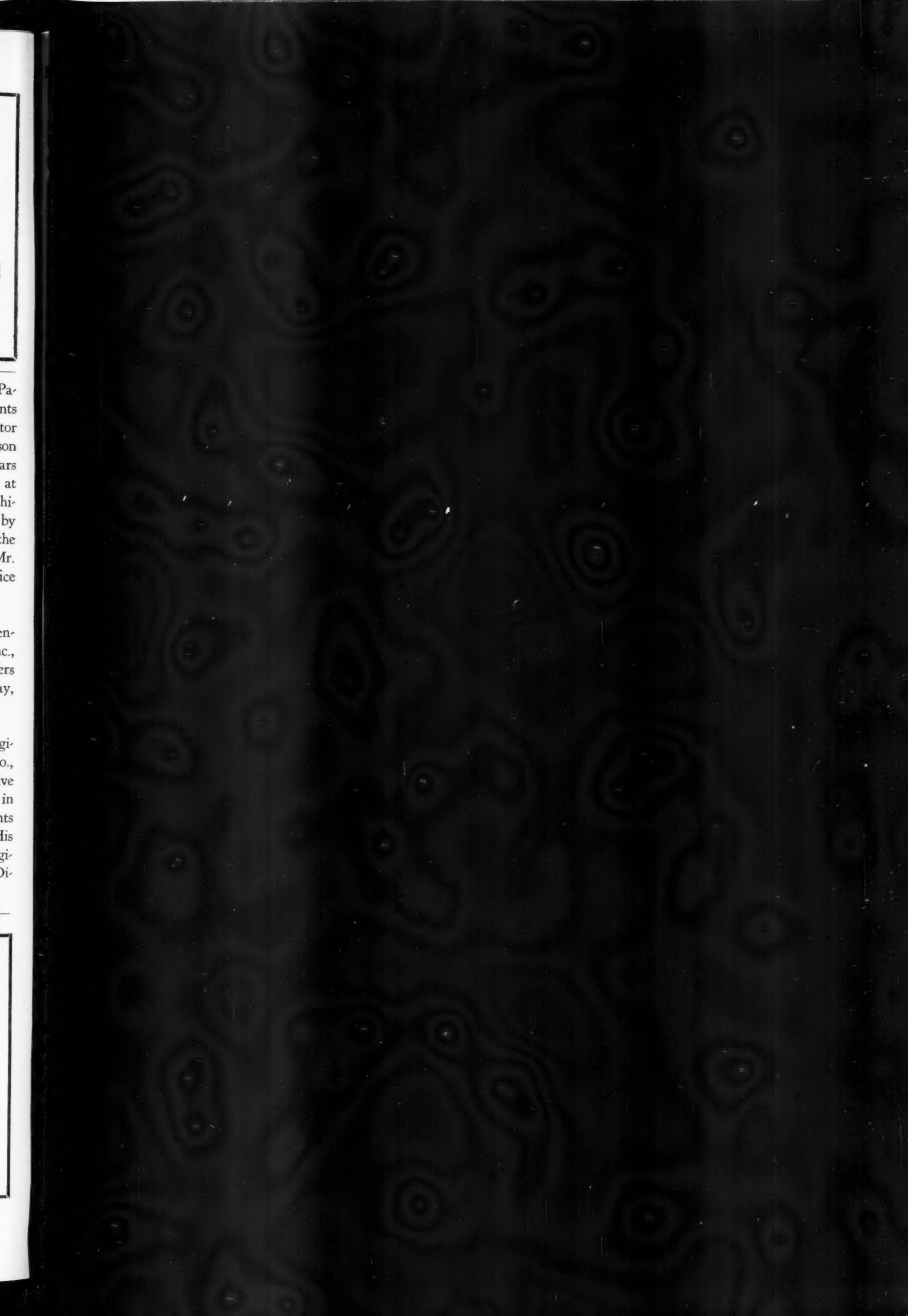
**High and low pressure boilers for processing, heating or power. Sizes from 5 to 160 H.P.; 15 to 150 lbs. pressure.**

**ALSTROM DEPENDABLE**
**TANKLESS HEATERS**
**The VACUUMATIC (ILLUSTRATED)**
**FOR ALL CAST IRON BOILERS**




**Submerged Coils**
**For All Steel Boilers**

**The Counterflow**
**For Small Homes**

***Catalogue on Request***

**The ALSTROM CORPORATION**
**4184 Park Ave., New York 57, N. Y.**